# Mini System FW365C/21/37

Service
Service
**Service**

# Service Manual

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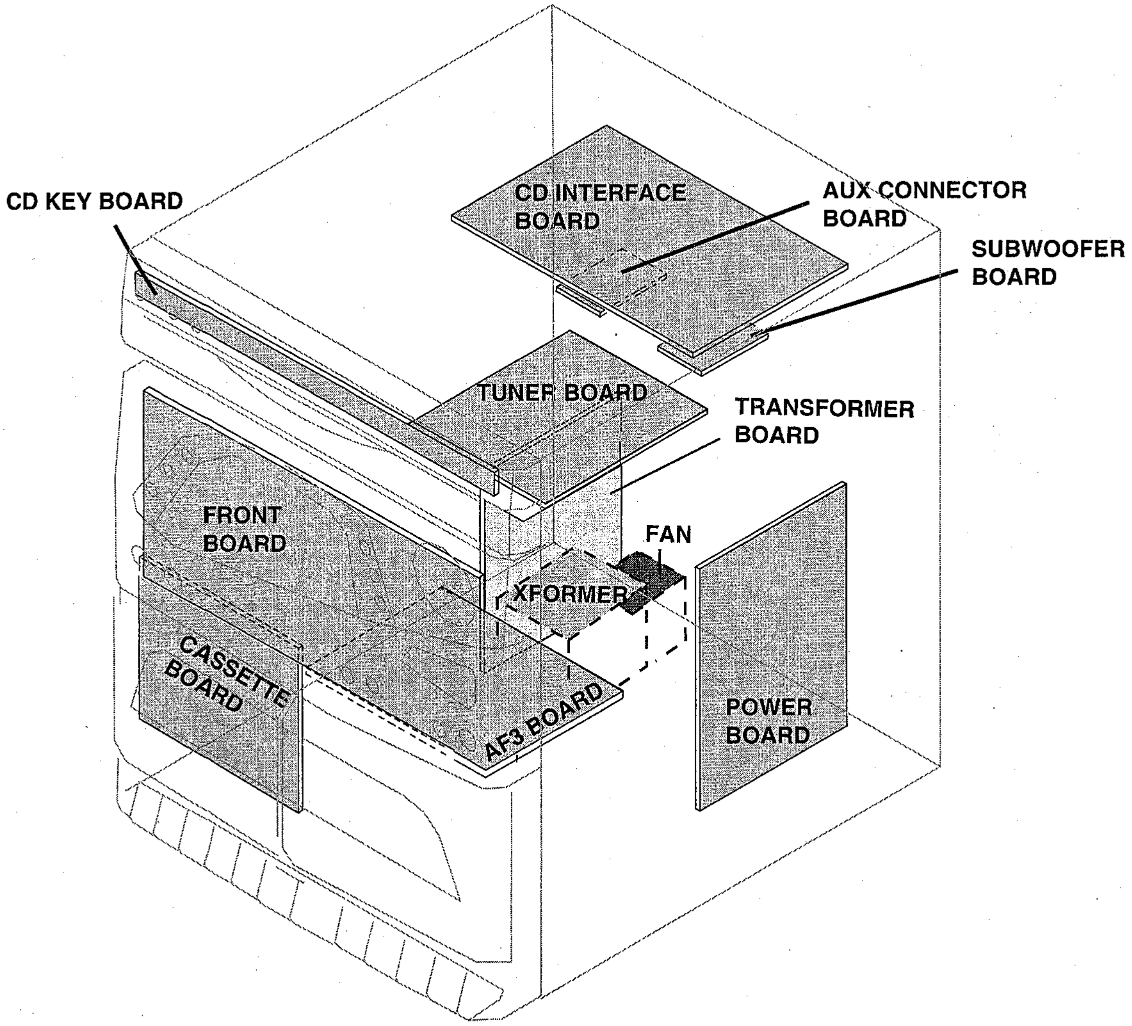
4822 725 25698

PCS 90279

PHILIPS

# LOCATION OF PRINTED CIRCUIT BOARD


CD KEY BOARD
CD INTERFACE BOARD
AUX CONNECTOR BOARD
SUBWOOFER BOARD
TUNER BOARD
TRANSFORMER BOARD
FRONT BOARD
FAN
XFORMER
CASSETTE BOARD
AF3 BOARD
POWER BOARD

## TECHNICAL SPECIFICATION

### *General:*

| | |
|---|---|
| Mains voltage | : 120V -/37<br>120V ~ 230V -/21 |
| Mains frequency | : 50 ~ 60Hz |
| Power consumption | : 140W max. @1/10 Prated |

### *Amplifier:*

| | |
|---|---|
| Output power | : 2 x 100W at 6Ω |
| Headphone | : 3.5mm stereo jack |
| Frequency response | : 40Hz - 20kHz (-3dB) Limit |
| Dynamic bass boost | : +8dB ±1dB at 100Hz |
| Input sensitivity | |
| Aux/Line | : 400mV ±2dB |
| Microphone | : 2.5mV ±2dB @1kHz |

### *Equalizer:*

| | |
|---|---|
| 100 Hz | : -3.5 ~ 5dB |
| 1 kHz | : ±3dB |
| 12kHz | : -0.5 ~ 5dB |

### *Tuner:*

*FM*

| | |
|---|---|
| Tuning range | : 87.5MHz - 108MHz |
| Grid | : 100kHz |
| IF | : 10.7MHz |
| Aerial input | : 300Ω Click fit for /37 |
| Sensitivity Mono 26dB S/N | : < 7µV |
| Distortion at RF=1mV, _f=75kHz | : 3% (typ. 2%) |
| IF rejection | : > 60dB |
| Image rejection | : > 25dB |
| -3dB Limiting Point | : < 23.5dBf |

*MW*

| | |
|---|---|
| Tuning range | : 530kHz - 1700kHz |
| Grid | : 10kHz |
| IF | : 450kHz ±1kHz |
| Sensitivity at 26dB S/N | : < 4.0mV/M |
| Distortion at RF=50mV, m=80%) | : < 5% (typ. 3%) |
| IF rejection | : > 45dB |
| Image rejection | : > 28dB |

### *CD Unit:*

| | |
|---|---|
| Frequency response within | : 20Hz - 20kHz at ±3dB |
| Signal/Noise ratio | : > 80dB (A-weighted) |
| Distortion at 1kHz | : < 0.5% |
| Channel unbalance | : < 1dB |
| Channel crosstalk at 1kHz | : > 50dB |
| De-emphasis | : 0 or 15/50 µS |

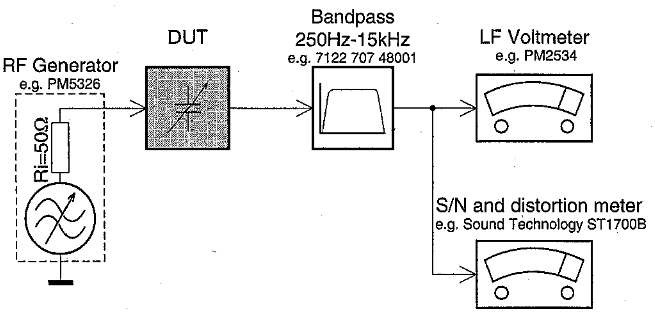
### *Recorder Part:*

| | | |
|---|---|---|
| Tape speed | | : 4.76 cm/sec ± 2% |
| Wow and flutter | | : < 0.4% |
| Fast-wind time C60 | | : 130 sec |
| Bias system | AM/FM | : AC 75kHz ±5kHz |
| Distortion at 250nWb/m | | : < 5% |
| Channel difference at PB | | : < 3dB |
| Channel difference overall | | : < 3dB |
| Channel Separation | | : > 24dB at 1kHz |
| Track Separation | | : > 55dB at 1kHz |
| ALC attack time | | : < 300ms |
| ALC recovery time | | : > 10s |
| Frequency Response | | : 80Hz - 12.5kHz<br>within -8dB |
| Signal to noise ratio ① | | : > 43dB |
| Signal to Hiss ratio ② | | : > 48dB |
| Erase attenuation ③ | | : > 55dB at 1kHz |

① at 250 nW/m FF-weighted
② at 250 nW/m A-weighted
③ use a 1kHz passfilter to minimize the wide band noise component

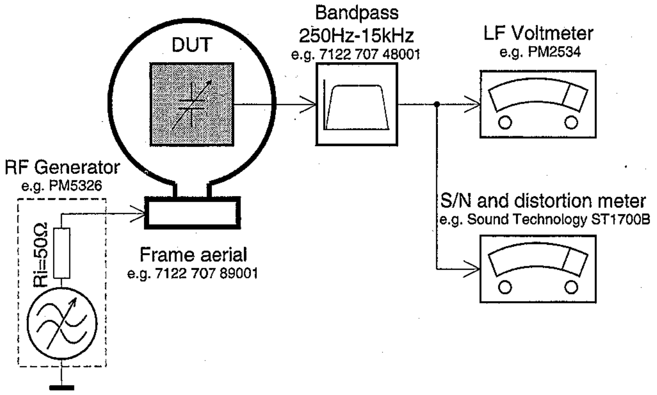
# MEASUREMENT SETUP

## *Tuner FM*


RF Generator
e.g. PM5326
Ri=50Ω
DUT
Bandpass
250Hz-15kHz
e.g. 7122 707 48001
LF Voltmeter
e.g. PM2534
S/N and distortion meter
e.g. Sound Technology ST1700B

Use a bandpass filter to eliminate hum (50Hz, 100Hz) and disturbance from the pilottone (19kHz, 38kHz).

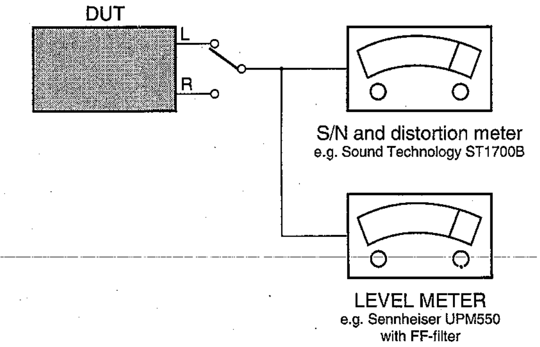
## *Tuner AM (MW,LW)*


DUT
Bandpass
250Hz-15kHz
e.g. 7122 707 48001
LF Voltmeter
e.g. PM2534
RF Generator
e.g. PM5326
Ri=50Ω
Frame aerial
e.g. 7122 707 89001
S/N and distortion meter
e.g. Sound Technology ST1700B

To avoid atmospheric interference all AM-measurements have to be carried out in a Faraday´s cage.
Use a bandpass filter (or at least a high pass filter with 250Hz) to eliminate hum (50Hz, 100Hz).

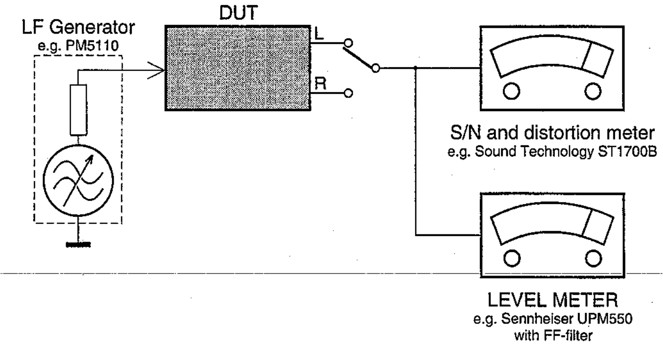
## *CD*

Use Audio Signal Disc SBC429 4822 397 30184
(replaces test disc 3)


DUT
L
R
S/N and distortion meter
e.g. Sound Technology ST1700B
LEVEL METER
e.g. Sennheiser UPM550
with FF-filter

## *Recorder*

Use Universal Test Cassette **CrO2** SBC419 4822 397 30069
or Universal Test Cassette **Fe** SBC420 4822 397 30071


LF Generator
e.g. PM5110
DUT
L
R
S/N and distortion meter
e.g. Sound Technology ST1700B
LEVEL METER
e.g. Sennheiser UPM550
with FF-filter

# SERVICE AIDS

**Service Tools:**

| | |
|---|---|
| Universal Torx driver holder | 4822 395 91019 |
| Torx bit T10 150mm | 4822 395 50456 |
| Torx driver set T6 - T20 | 4822 395 50145 |
| Torx driver T10 extended | 4822 395 50423 |

**Cassette:**

| | |
|---|---|
| SBC419 Test cassette CrO2 | 4822 397 30069 |
| SBC420 Test cassette Fe | 4822 397 30071 |
| MTT150 Dolby level 200nWb/M | 4822 397 30271 |

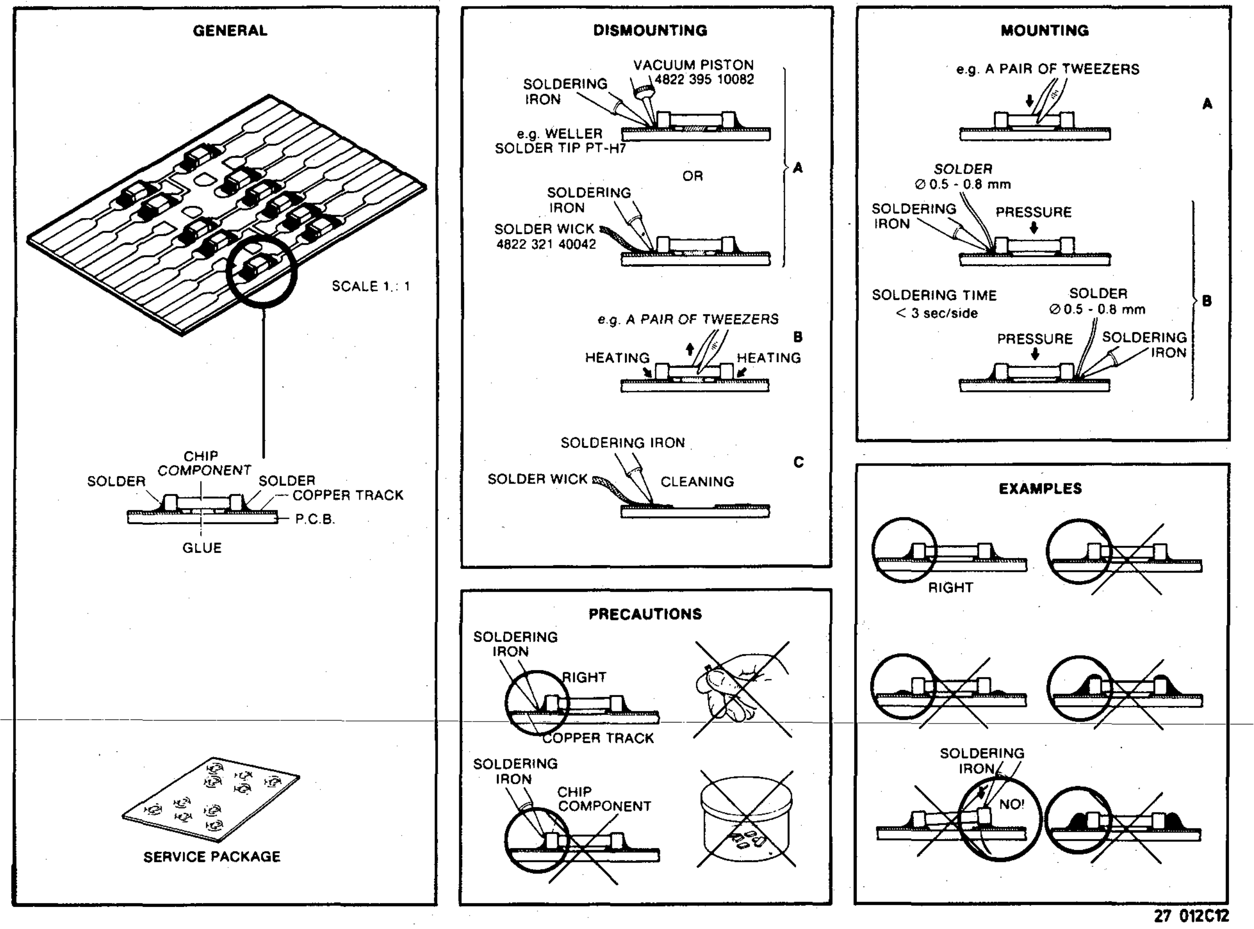
**Compact Disc:**

| | |
|---|---|
| SBC426/426A Test disc 5 + 5A | 4822 397 30096 |
| SBC442 Audio Burn-in Test disc 1kHz | 4822 397 30155 |
| SBC429 Audio Signals disc | 4822 397 30184 |
| Dolby Pro-logic Test Disc | 4822 395 10216 |

**ESD Equipment:**

| | |
|---|---|
| Anti-static table mat - large 1200x650x1.25mm | 4822 466 10953 |
| Anti-static table mat - small 600x650x1.25mm | 4822 466 10958 |
| Anti-static wristband | 4822 395 10223 |
| Connector box (1MΩ) | 4822 320 11307 |
| Extension cable (to connect wristband to conn. box) | 4822 320 11305 |
| Connecting cable (to connect table mat to conn. box) | 4822 320 11306 |
| Earth cable (to connect product to mat or box) | 4822 320 11308 |
| Complete kit ESD3 (combining all above products) | 4822 320 10671 |
| Wristband tester | 4822 344 13999 |

## HANDLING CHIP COMPONENTS


GENERAL
SCALE 1 : 1
CHIP COMPONENT
SOLDER
SOLDER
COPPER TRACK
P.C.B.
GLUE
SERVICE PACKAGE
DISMOUNTING
VACUUM PISTON 4822 395 10082
SOLDERING IRON
e.g. WELLER SOLDER TIP PT-H7
OR
SOLDERING IRON
SOLDER WICK 4822 321 40042
A
e.g. A PAIR OF TWEEZERS
B
HEATING
HEATING
SOLDERING IRON
SOLDER WICK
CLEANING
C
PRECAUTIONS
SOLDERING IRON
RIGHT
COPPER TRACK
SOLDERING IRON
CHIP COMPONENT
MOUNTING
e.g. A PAIR OF TWEEZERS
A
SOLDER
∅ 0.5 - 0.8 mm
SOLDERING IRON
PRESSURE
SOLDERING TIME
< 3 sec/side
SOLDER
∅ 0.5 - 0.8 mm
B
PRESSURE
SOLDERING IRON
EXAMPLES
RIGHT
SOLDERING IRON
NO!
27 012C12

**GB WARNING**

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD).
Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance.
Keep components and tools also at this potential.

**F ATTENTION**

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).
Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.
Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité.
Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

## ESD

**D WARNUNG**

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).
Unsorgfältige Behandlung im Reparaturfall kan die Lebensdauer drastisch reduzieren.
Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes.
Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

**NL WAARSCHUWING**

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen.
Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

**I AVVERTIMENTO**

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione.
Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

**GB**

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used.

**NL**

Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

**F**

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utiliséés les piéces de rechange identiques à celles spécifiées.

**D**

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Original zustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

**I**

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.

"After servicing and before returning set to customer perform a leakage current measurement test from all exposed metal parts to earth ground to assure no shock hazard exist. The leakage current must not exceed 0.5mA."

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

**CLASS 1**
**LASER PRODUCT**
3122 110 03420

**GB Warning !**

Invisible laser radiation when open.
Avoid direct exposure to beam.

**S Varning !**

Osynlig laserstrålning när apparaten är öppnad och spärren är urkopplad. Betrakta ej strålen.

**SF Varoitus !**

Avatussa laitteessa ja suojalukituksen ohitettaessa olet alttiina näkymättömälle laserisäteilylle. Älä katso säteeseen!

**DK Advarse !**

Usynlig laserstråling ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsaettelse for stråling.

## General Information

- The typeplate is located at the rear of the set.
- Recording is permissible if copyright or other rights of third parties are not infringed.

1 All unnecessary packaging material has been omitted. We have tried to make the packaging easy to separate into three mono-materials:
  - cardboard (box)
  - expandable polystyrene (buffer)
  - polyethylene (bags, protective foam sheet).

  Please observe the local regulations regarding the disposal of these packaging materials.

2 Your set consists of materials which can be recycled and reused if disassembled by a specialized company. Please follow local regulations on recycling your old set.

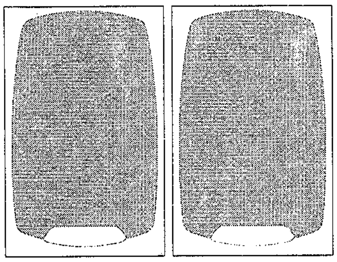
3 Do not dispose of dead batteries with your household waste. Dispose of batteries according to local regulations.

4 Note: Switching off the standby mode overnight (remove the AC power cord from the wall socket) will save energy.

## Safety Information

- Before operating the system, check that the operating voltage indicated on the typeplate (or the voltage indication beside the voltage selector) of your system is identical with the voltage of your local power supply. If not, please consult your dealer. The type plate is located at the rear of your system.
- When the system is switched on, do not move it around.
- Place the system on a solid base (e.g. a cabinet).
- Place the system in a location with adequate ventilation to prevent internal heat build-up in your system.
- Do not expose the system to excessive moisture, rain, sand or heat sources.
- Under no circumstances should you repair the unit yourself, as this will invalidate the warranty!
- If the system is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense on the lens of the CD unit inside the system. Should this occur, the CD player will not operate normally. Leave the power on for about one hour with no disc in the unit until normal playback is possible.
- Electrostatic discharge may cause unexpected problems. See whether these problems disappear if you unplug the AC power cord and plug it in again after a few seconds.
- **To disconnect the system from the power supply completely, remove the AC power plug from the wall socket.**

## Speakers



## Accessories (Supplied)

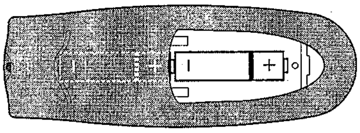
- Remote control
- Batteries (2 x AAA) for remote control
- AM loop antenna
- FM antenna wire
- AC power cord

## Accessories (Recommended)

- Philips FB 201 active subwoofer.

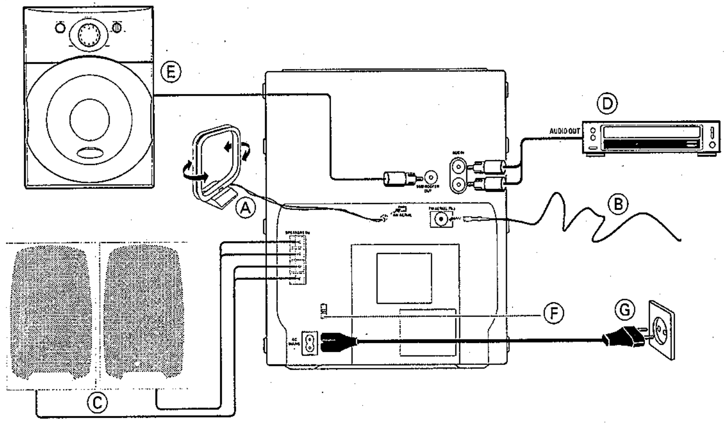
## Inserting the batteries into the remote control

- Insert the batteries (Type R03 or AAA) into the remote control as shown inside the battery compartment.



- To avoid damage from possible battery leakage, remove dead batteries or batteries that will not be used for a long time. For replacement use type R03 or AAA batteries.

## Rear Connection



## Ⓐ AM Antenna Connection

Connect the supplied loop antenna to the AM AERIAL terminal. Adjust the position of the AM loop antenna for the best reception.

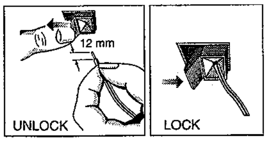
## Ⓑ FM Wire Antenna Connection

Connect the supplied FM wire antenna to the FM 75 Ω terminal. Adjust the position of the FM antenna for the best reception.

**Outdoor Antenna**
For better FM stereo reception connect an outdoor FM antenna to the FM AERIAL 75 Ω terminal using a 75 Ω coaxial wire.

## Ⓒ Speaker Connections

- Connect the right speaker to terminal **R**, with the red wire to + and the black wire to –.
- Connect the left speaker to terminal **L**, with the red wire to + and the black wire to –.
- Clip the stripped portion of the speaker wire as shown.



## Ⓓ Connecting other equipment to your system

You can connect TV, Laser Disc or VCR audio left and right outputs to the AUX IN terminal at the rear of the system.

## Ⓔ Subwoofer Out *(optional)*

You may connect an external active subwoofer (recommended Model FB 201) to the SUBWOOFER OUT socket to enhance the mini system. The subwoofer reproduces bass sound (e.g. explosions, the rumble of spaceships, etc.). For specifications of the subwoofer, see Specifications. Be sure to follow the instructions supplied with the subwoofer unit.

## Ⓕ Adjusting the Operating Voltage

*(for specific versions only)*

Before connecting the AC power cord to a wall outlet, make sure that the voltage selector at the rear of the system is set to the local power line voltage. If not, reset the selector before connecting to the wall outlet.

## Ⓖ AC Power Supply

After all other connections have been made, connect the AC power socket to the set and the AC power plug to the wall outlet.

## REMOTE CONTROL

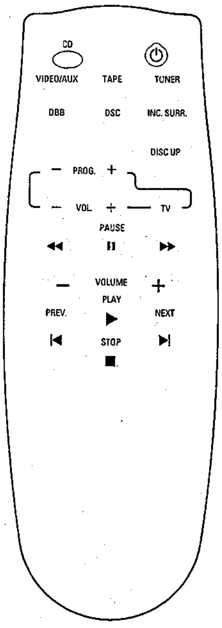
### Remote Control Functions

- First select the source you wish to control by pressing one of the source selection keys on the remote control (e.g. CD, TUNER, TAPE or VIDEO/AUX).
- Then select the desired function (PLAY, NEXT, etc.).

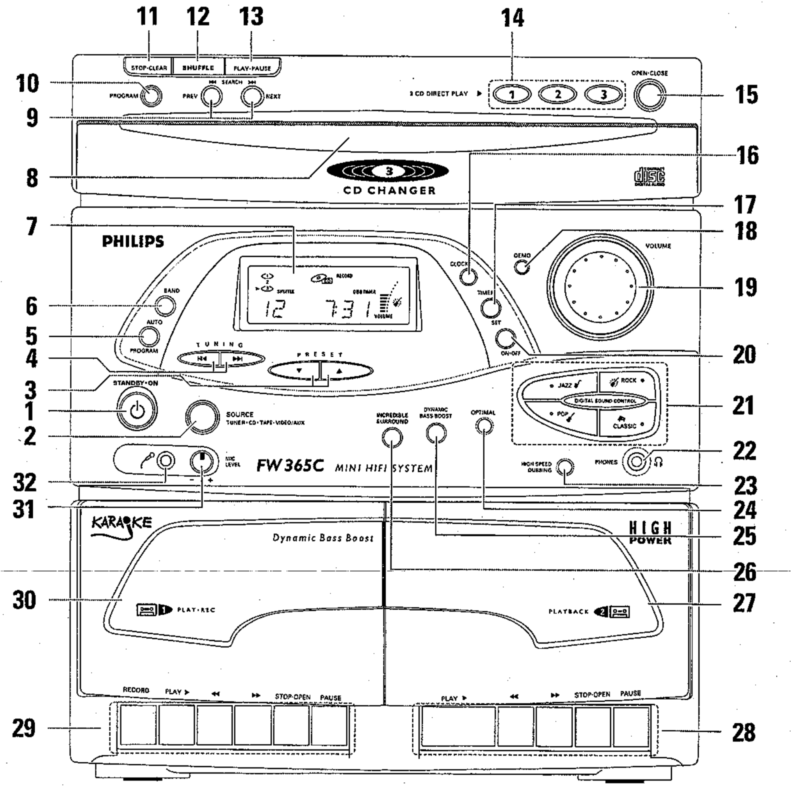
*Notes:*

- *Whenever a remote control button is pressed, the source icon on the set display will flicker. This indicates the remote control signal is received by the set.*
- *For TV/VCR operation, the accessory TV or VCR must use the RC-5 code remote control system.*

| | |
|---|---|
| ⏻ | to switch the unit to standby mode. |
| **CD** | to select CD mode. |
| **VIDEO/AUX** | to select VIDEO/AUX or external mode. |
| **TAPE** | to select TAPE mode. |
| **TUNER** | to select TUNER mode. |
| **INC. SURR.** | to switch on or off the surround sound effect. |
| **DSC** | to select digital sound control: JAZZ, ROCK, CLASSIC, POP or OPTIMAL. |
| **DBB** | to switch on and off dynamic bass boost. |
| **DISC UP** | to select the next disc tray for playback. |
| **PROG. +/−** | to select previous/next channel for TV/VCR. |
| **VOL. +/−** | to adjust the TV (RC5 code) volume. |
| **TV** | to select TV mode. |
| **PAUSE ❚❚** | to interrupt CD playback. |
| **◀◀ / ▶▶** | |
| for TUNER | to select a lower/higher frequency. |
| for CD | to search for a particular passage. |
| **VOLUME +/−** | to adjust the volume of the system. |
| **PLAY ▶** | to start CD playback. |
| **STOP ■** | to stop CD playback. |
| **◀◀❘ PREV. / NEXT ▶▶❘** | |
| for TUNER | to select a lower/higher tuner preset station. |
| for CD | to select previous/next CD track. |


CD
VIDEO/AUX
TAPE
TUNER
DBB
DSC
INC. SURR.
DISC UP
− PROG. +
− VOL. + — TV
PAUSE
◀◀
❚❚
▶▶
− VOLUME +
PLAY
PREV.
▶
NEXT
❘◀
STOP
▶❘
■

## CONTROLS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21
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23
24
25
26
27
28
STOP-CLEAR
SHUFFLE
PLAY-PAUSE
PROGRAM
PREV
SEARCH
NEXT
3 CD DIRECT PLAY
1
2
3
OPEN-CLOSE
CD CHANGER
PHILIPS
CLOCK
DEMO
VOLUME
BAND
AUTO
PROGRAM
TIMER
SET
ON-OFF
TUNING
PRESET
STANDBY-ON
SOURCE
TUNER-CD-TAPE-VIDEO/AUX
INCREDIBLE SURROUND
DYNAMIC BASS BOOST
OPTIMAL
JAZZ
ROCK
DIGITAL SOUND CONTROL
POP
CLASSIC
MIC LEVEL
FW365C
MINI HIFI SYSTEM
HIGH SPEED DUBBING
PHONES
KARAOKE
Dynamic Bass Boost
HIGH POWER
PLAY-REC
PLAYBACK
RECORD
PLAY ▶
◀◀
▶▶
STOP-OPEN
PAUSE

### Front View

1 **STANDBY-ON**
- to switch the set on or to standby mode.

2 **SOURCE**
- to select the following:

| | |
|---|---|
| **TUNER** | : to switch to Tuner mode. |
| **CD** | : to switch to CD mode. |
| **TAPE** | : to switch to Tape mode. |
| **VIDEO/AUX** | : to switch to VIDEO/AUX mode (for external sources, e.g. TV, Laser Disc or VCR sound). |

3 **PRESET ▲** or **▼**
- to select a radio station in memory. Also use for clock and timer setting.

4 **TUNING ❘◀◀** or **▶▶❘**
- to tune to tuner stations:
  - ❘◀◀ : lower frequencies
  - ▶▶❘ : higher frequencies

Also use for clock and timer setting.

5 **AUTO PROGRAM**
- to program preset stations automatically or manually.

6 **BAND**
- to select the waveband: FM or MW.

7 **DISPLAY**
- to display the current setting of the set.

8 **CD CAROUSEL TRAY**

9 **PREV / NEXT ( ❘◀◀ SEARCH ▶▶❘ )**
- to skip to the beginning of the current or previous/next track or to search backward/forward.

10 **PROGRAM**
- to program CD tracks

11 **STOP•CLEAR**
- to stop CD playback or to clear a program.

12 **SHUFFLE**
- to play all the available discs and their tracks in random order.

## CONTROLS

13 **PLAY•PAUSE**
- to start or interrupt CD playback.

14 **3 CD DIRECT PLAY ▶**
- to select play for each CD tray.

15 **OPEN•CLOSE**
- to open or close the CD carousel tray.

16 **CLOCK**
- to set the clock.

17 **TIMER SET**
- to set the timer.

18 **DEMO**
- to display the various features offered by the system.

19 **VOLUME**
- to adjust the volume level.

20 **TIMER ON•OFF**
- to switch the timer on or off.

21 **DIGITAL SOUND CONTROL (DSC)**
- to select the desired sound effect : JAZZ, ROCK, CLASSIC or POP.

22 **PHONES 🎧**
- headphones (3.5mm) jack.

23 **HIGH SPEED DUBBING**
- to dub from **TAPE DECK 2** to **TAPE DECK 1** at high speed.

24 **OPTIMAL**
- to select the sound setting that is tuned to the acoustics of the supplied speakers.

25 **DYNAMIC BASS BOOST (DBB)**
- to switch on bass boost to enhance bass response or to switch off bass boost.

26 **INCREDIBLE SURROUND**
- to switch on or off the surround sound effect.

27 **TAPE DECK 2**

28 **TAPE DECK 2 CASSETTE OPERATION**
- **PLAY ▶** : to start playback.
- **◀◀** : to rewind the cassette.
- **▶▶** : to fast forward the cassette.
- **STOP•OPEN** : to stop playback or to open the cassette compartment.
- **PAUSE** : to interrupt playback

29 **TAPE DECK 1 CASSETTE OPERATION**
- **RECORD** : to start recording.
- **PLAY ▶** : to start playback.
- **◀◀** : to rewind the cassette.
- **▶▶** : to fast forward the cassette.
- **STOP•OPEN** : to stop playback or to open the cassette compartment.
- **PAUSE** : to interrupt playback or recording.

30 **TAPE DECK 1**

31 **MIC LEVEL**
- to adjust the mixing level for karaoke or microphone recording.

32 **MIC**
- to connect microphone (3.5mm) jack.

## OPERATING THE SYSTEM

### Demo mode

The system has a demonstration mode that shows the various features offered by the system. Whenever the system is switched on from the wall socket, the demonstration mode will start automatically.

**To stop demonstration mode**
- Press **DEMO**, **STANDBY - ON**, **SOURCE**, CD **OPEN•CLOSE** or **3 CD DIRECT PLAY** button on the system (or ⏻, **CD**, **TUNER**, **TAPE** or **VIDEO/AUX** on remote control) to stop the demonstration.

**To switch on demonstration mode**
- Press **DEMO**.
  → The display will show "WELCOME TO THE AUDIO WORLD", then a demonstration of the various features will follow.

**Important:**
Before you begin operating the system, complete the preparation procedures.

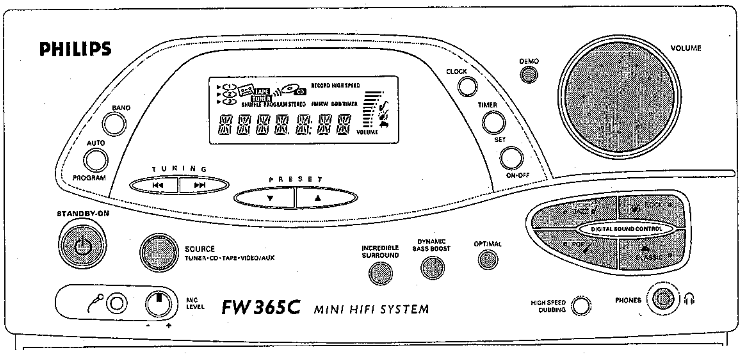
### Switching the system ON

- Press **STANDBY-ON** or **SOURCE** (or **CD**, **TUNER**, **TAPE** or **VIDEO/AUX** on the remote control).

### Switching the system to standby mode

- Press **STANDBY-ON** again (or ⏻ on the remote control).

## OPERATING THE SYSTEM



### Selecting the Sound Source

- Press **SOURCE** to select either TUNER, CD, TAPE or VIDEO/AUX (or **CD**, **TUNER**, **TAPE** or **VIDEO/AUX** on the remote control).
  → The display indicates the selected sound source.

You can also select the sound source directly by selecting the respective PLAY button or 3 CD DIRECT PLAY buttons for CD or the PRESET, BAND or TUNING button for TUNER mode.

*Note:*
*For external sound source, make sure that you have connected the audio left and right outputs terminals of the external equipment (TV, VCR or Laser Disc player) to the AUX IN terminals at the rear of the set.*

### Volume Adjustment

Turn **VOLUME** right or left (or press **VOLUME** + or − on the remote control) to increase or decrease the sound level.

**For Personal Listening**
Connect the headphones to the PHONES 🎧 socket (3.5 mm). The speakers will be muted.

### Digital Sound Control (DSC)

- To enjoy a special sound effect, press **JAZZ** ( ♪ ), **ROCK** ( ✱ ), **CLASSIC** ( ♫ ) or **POP** ( ♪ ).
- You can also press **DSC** on the remote control to select the respective sound setting, including **OPTIMAL**.

### Optimal Sound

- Press **OPTIMAL** to hear the sound setting that is tuned to the acoustics of the supplied speakers.

### Dynamic Bass Boost (DBB)

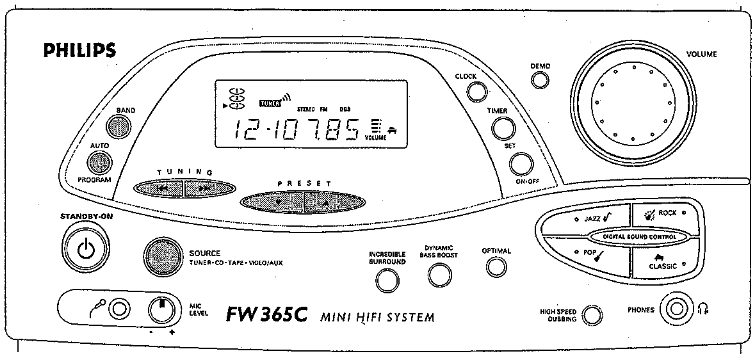
- Press **DBB** to enhance the bass response.
  → The DBB flag lights up.

### Incredible Surround

INCREDIBLE SURROUND

- In additional to all other sound settings, you can switch on or off the incredible surround sound feature by pressing **INCREDIBLE SURROUND**.
  → This creates a phenomenal surround sound effect even if the speakers are positioned close to the system. The sound becomes "incredibly" spatial.
  → The INCREDIBLE SURROUND button lights up.

# TUNER


PHILIPS
BAND
AUTO
PROGRAM
TUNING
PRESET
CLOCK
DEMO
TIMER
SET
ON·OFF
VOLUME
STANDBY-ON
SOURCE
TUNER·CD·TAPE·VIDEO/AUX
INCREDIBLE SURROUND
DYNAMIC BASS BOOST
OPTIMAL
JAZZ
ROCK
DIGITAL SOUND CONTROL
POP
CLASSIC
MIC LEVEL
FW365C MINI HIFI SYSTEM
HIGH SPEED DUBBING
PHONES

## Tuning to radio stations

1 Press **SOURCE** (or **TUNER** on the remote control) to select TUNER.
2 Press **BAND** to select the desired waveband: FM or MW.
3 Press **TUNING** I◀◀ or ▶▶I for more than one second.
   → The display will show 'SEARCH' until a station with sufficient signal strength is found.

- Repeat this procedure until the desired station is reached.
- To tune to a weak station, briefly press **TUNING** I◀◀ or ▶▶I until the display shows the right frequency and/or when the best reception has been obtained.

## Storing Preset Stations

You can store up to 20 stations in the memory. When a preset station is selected, the preset number appears next to the frequency on the display.

**Automatic programming**

1 Press **BAND** to select the desired waveband: FM or MW.
2 Press **AUTO PROGRAM** for more than one second to start the automatic programming.
   → PROGRAM flashes and 'AUTO' is displayed.
   → Every available station will be stored automatically. The frequency and preset number will be displayed briefly.
   → It will stop searching when all the available stations are stored or when 20 preset stations are stored.

- You can cancel the automatic programming by pressing **AUTO PROGRAM**; **TUNING** I◀◀ or ▶▶I ; **PRESET** ▼ or ▲ ; or **BAND**.

*Note:*
*If you want to reserve a section of preset numbers, for example preset numbers 1 - 9, select preset 10 before starting automatic programming. Now only the preset numbers 10 to 20 will be programmed.*

**Manual programming**

1 Press **AUTO PROGRAM** for less than one second.
   → PROGRAM flashes on the display.
2 Press **BAND** to select the desired waveband: FM or MW.
3 Press **TUNING** I◀◀ or ▶▶I to tune to the desired frequency.
4 Press **PRESET** ▼ or ▲ to select a preset number.
5 Press **AUTO PROGRAM** again.
   → PROGRAM disappears, and the station is stored.

- Repeat the above procedure to store other preset stations.

## Tuning to Preset Stations

- Press **PRESET** ▼ or ▲ (or I◀ **PREV** or **NEXT** ▶I on the remote control) to select the desired preset number.
   → The preset number, frequency and waveband appear on the display.

# TUNER

## Changing the FM/MW tuning grid

*for specific versions only)*

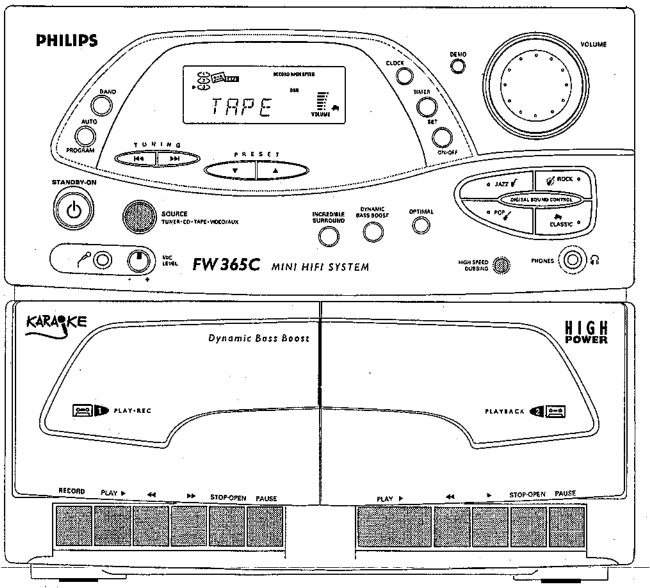
**For FM Band : change from 50kHz to 100kHz or vice versa**
**For MW Band : change from 9kHz to 10kHz or vice versa**

*Changing of tuning grid will erase all previously stored preset stations.*

1 Switch the unit to standby mode and disconnect the unit from the AC power supply (pull out the AC power cord).
2 Keep **AUTO PROGRAM** and **TUNING** ▶▶I depressed, while re-connecting the system to the AC power supply again.
   → Display briefly shows"TUNER" and then followed "GRID 9" or "GRID 10".

*Note:*
*GRID 9 indicates that the tuning grid is in step of 50kHz in FM band or 9kHz in MW band. GRID 10 indicates that the tuning grid is in step of 100kHz in FM band or 10kHz in MW band.*

# CASSETTE DECK


PHILIPS
TAPE
BAND
AUTO
PROGRAM
TUNING
PRESET
CLOCK
DEMO
TIMER
SET
ON·OFF
VOLUME
STANDBY-ON
SOURCE
TUNER·CD·TAPE·VIDEO/AUX
INCREDIBLE SURROUND
DYNAMIC BASS BOOST
OPTIMAL
JAZZ
ROCK
DIGITAL SOUND CONTROL
POP
CLASSIC
MIC LEVEL
FW365C MINI HIFI SYSTEM
HIGH SPEED DUBBING
PHONES
KARAOKE
Dynamic Bass Boost
HIGH POWER
1 PLAY·REC
PLAYBACK 2
RECORD
PLAY ▶
◀◀
▶▶
STOP·OPEN
PAUSE

## Loading a cassette

- Press **STOP•OPEN**.
- The cassette compartment door opens.
- Load the cassette with the open side downward and the full spool to the left.
- Close the cassette compartment door.

## Tape Playback

1 Press **SOURCE** (or **TAPE** on the remote control) to select TAPE.
2 Load the cassette into the desired **cassette deck**.
3 Press **PLAY** ▶ to start playback.
4 Press **STOP•OPEN** to end playback.

## CASSETTE DECK

**Fast Forward/Rewinding**

1 You can rewind or fast forward the cassette by pressing ◀◀ or ▶▶, respectively.
2 Press **STOP•OPEN** to stop fast forwarding or rewinding.

*Note:*
*It is possible to fast forward or rewind a cassette when the set is in another source mode (e.g. TUNER, CD or VIDEO/AUX mode).*

### Continuous playback of two cassettes

1 Press **SOURCE** to select TAPE.
2 Load the cassettes in **tape deck 1** and **tape deck 2**.
3 Press **PLAY ▶** on **tape deck 2**.
4 Press **PAUSE** on **tape deck 1**.
5 Press **PLAY ▶** on **tape deck 1**.
→ Playback will begin with **tape deck 2** and will continue with **tape deck 1** when **tape deck 2** ends.
6 Press **STOP•OPEN** if you want to stop playback before the end of the cassette in **tape deck 1** or **tape deck 2**.

### Recording (TAPE DECK 1)

1 Press **SOURCE** to select TUNER, CD or VIDEO/AUX.
2 Load a blank cassette into **tape deck 1**.
3 Press **RECORD** on **tape deck 1** to start recording.
→ The RECORD flag starts flashing.
4 Press **STOP•OPEN** on **tape deck 1** to stop recording.

*Note:*
*During recording, it is not possible to listen to another sound source.*

**Dubbing cassettes (from TAPE DECK 2 to TAPE DECK 1)**

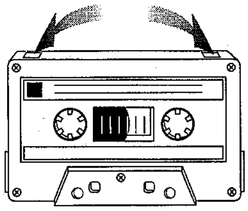
1 Load the pre-recorded cassette into **tape deck 2** and a blank cassette into **tape deck 1**.
→ Make sure that both cassettes have their full spools to the left.
- For high speed recording, press **HIGH SPEED DUBBING**.
→ HIGH SPEED appears on the display.
2 Press **PAUSE** on **tape deck 1**.
3 Press **RECORD** on **tape deck 1**.
→ RECORD appears on the display.
4 Press **PLAY ▶** on **tape deck 2**.
→ Recording will start automatically.
5 Press **STOP•OPEN** on **tape deck 1** and **tape deck 2** to stop dubbing.

*Notes:*
- *At the end of side A, flip the cassettes to side B and repeat the procedure. The tape deck does not have an auto-reverse function, so you must manually flip the cassette.*
- *Dubbing of cassettes is only possible in the Tape mode. To ensure good dubbing, use cassettes of the same length.*
- *During high speed dubbing operation in the Tape mode, the sound is reduced to a low volume.*

### General Information

- For recording, use only a cassette of IEC type I (normal cassette).
- The tape in the cassette is secured at both ends with leader tape. At the beginning and end of a cassette, nothing will be recorded for six to seven seconds.
- The recording level is set automatically, regardless of the position of VOLUME.
- Check and tighten slack tape with a pencil before use. Slack tape may get jammed or may burst in the mechanism.
- To prevent accidental recording, break out the tab on the left shoulder of the cassette side you want to protect. To re-record the cassette, cover each hole with cellophane tape.

**Erasure Prevention Tabs**



- C-120 tape is extremely thin and may be easily deformed or damaged. It is not recommended for use in this unit.
- Store the cassettes at room temperature and do not put them too close to a magnetic field (for example, transformers, TVs or speakers).

---

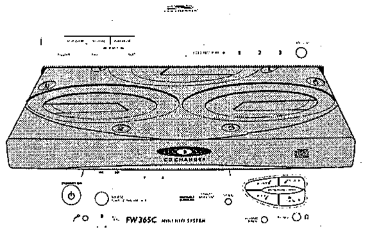
## CD CHANGER

**Warning!**

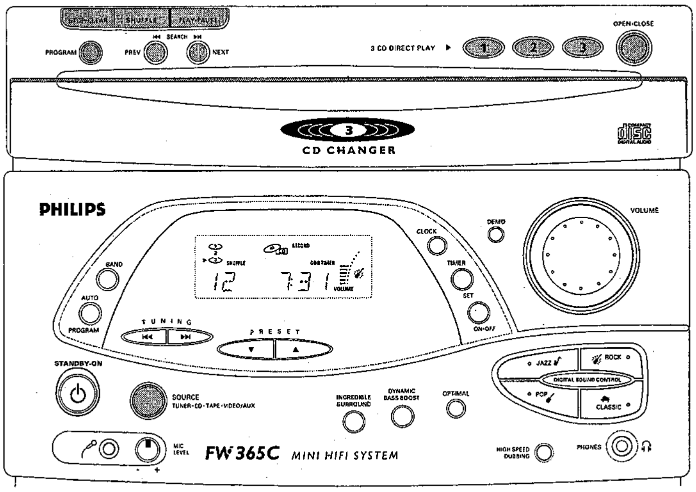
1) This set is designed for conventional CDs. Do not use any accessories like disc stabilizer rings or CD treatment sheets, etc, which may damage the CD mechanism.
2) Do not load more than one disc into each tray.
3) When the CD changer is loaded with CD(s), do not turn over or shake the unit as this may jam the changer mechanism.

You can load up to three discs in the CD changer for continuous play without interruption. In addition to the conventional 12-cm disc, 8-cm discs can also be used without an adaptor.

### Loading the CD Changer



1 Press **SOURCE** (or **CD** on the remote control) to select CD.
2 Press **OPEN•CLOSE**.
→ The CD compartment slides out.
3 Load a disc with the ***printed side up*** in the right tray.
- You can load another disc in the left tray.
- To load the third disc, press the corresponding **3 CD DIRECT PLAY** button of the empty tray.



→ The CD changer will rotate until the empty tray is at the right hand side and is ready for loading.
→ Playback will always start with the outer right disc tray.
4 Press **OPEN•CLOSE** to close the CD compartment.
→ The total number of tracks and the playing time of the last selected disc will appear on the display.

The following display indications will help you to know whether the disc trays are empty or loaded.

1 – indicates disc tray 1 is empty.

(2) – indicates disc tray 2 is loaded with a disc.

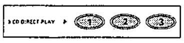
▶ (3) – indicates disc 3 is the current or selected disc tray.

## Playing a Disc

1 Press **PLAY•PAUSE** (or **PLAY** ▶ on the remote control) to start playback.
   → The disc tray, track number and elapsed playing time of the current track appear on the display.
- To interrupt play, press **PLAY•PAUSE** (or **PAUSE** ❚❚ on the remote control).
   → The playing time flashes.
- To resume play, press **PLAY•PAUSE** again (or **PLAY** ▶ on the remote control).

2 To stop play, press **STOP•CLEAR** (or **STOP** ■ on the remote control).

*Note:*
*All the available discs will play once, then stop. When the CD has stopped playing, the set will switch to the standby mode automatically after 15 minutes if no button is pressed.*



When the CD tray is closed, you can play a CD directly by pressing the **3 CD DIRECT PLAY (1 - 3)** buttons on the set (or **DISC UP** button on the remote control). The CD player will stop at the end of playback of the selected disc.

## Selecting a desired track

**Selecting a desired track when playback is stopped**

1 Press **PREV** or **NEXT** ( |◀ **PREV** or **NEXT** ▶| on the remote control) until the desired track appears on the display.

2 Press **PLAY•PAUSE** (or **PLAY** ▶ on the remote control) to start playback.
   → The selected track number and elapsed playing time appear on the display.Selecting a desired track during playback

**Selecting a desired track during playback**

1 Press **PREV** or **NEXT** ( |◀ **PREV** or **NEXT** ▶| on the remote control) until the desired track appears on the display.
   → The selected track number and elapsed playing time appear on the display.
- If you press **PREV** once it will skip to the beginning of the current track and play the track again.

## Searching for a particular passage during playback

- Press and hold **SEARCH** |◀◀ or ▶▶| (or ◀◀ or ▶▶ on the remote control) until the desired passage is located. During the search, the sound is played at a faster than normal rate and at a reduced volume. Playback returns to normal when **SEARCH** |◀◀ or ▶▶| is released.

## Shuffle

SHUFFLE – playing all the available discs and their tracks in random order. It can also be used when tracks are programmed.

**To shuffle all the discs and tracks**

1 Press **SHUFFLE**.
   → "SHUFFLE" flashes briefly on the display.
   → The SHUFFLE flag, the disc and the track selected at random appear on the display.
- The discs and the tracks will now be played in random order until you press **STOP•CLEAR**.

2 Press **SHUFFLE** again to resume normal playback.
   → The SHUFFLE flag disappears from the display.

## Programming Tracks

Programming tracks of a loaded CD is possible when CD playback is stopped. The display will indicate the total tracks stored in the program. Up to 40 tracks can be stored in the memory in any order. When 40 tracks are stored and you attempt to store another track, the display will show "PROGRAM FULL".

1 Load the desired discs in the disc trays.
2 Press **PROGRAM** to start programming.
   → The PROGRAM flag flashes on the display.
3 Press the desired disc button to select the disc.
4 Press **PREV** or **NEXT** to select the desired track.
5 Press **PROGRAM** to store the track.
- Repeat steps **3** to **5** to store other discs and tracks.

6 Press **STOP•CLEAR** once to end programming.
   → The total number of tracks programmed and total playing time will appear on the display.

## Playing the program

1 Press **PLAY•PAUSE** to start program playback.
   → The track number and elapsed playing time of the current track will appear on the display.
2 Press **STOP•CLEAR** to stop program playback.

*Note:*
*If you press any of the 3 CD DIRECT PLAY buttons, the set will play the selected disc, and the program will be ignored temporarily. The PROGRAM flag will also temporarily disappear from the display, then reappear when the playback for the selected disc ends.*

**Reviewing the program**

Reviewing of a program is only possible when CD playback is stopped.
- Press **PREV** or **NEXT** repeatedly to review the programmed tracks.

**Erasing the program (when playback is stopped)**
- Press **STOP•CLEAR** or **OPEN•CLOSE**.
   → "PROGRAM CLEARED" appears on the display.

*Note:*
*The program is also erased when the set is disconnected from the power supply. If the CD carousel is opened, the tracks belonging to the outer two trays will be erased and "CLEARED" will flash on the display once.*

## CD Recording

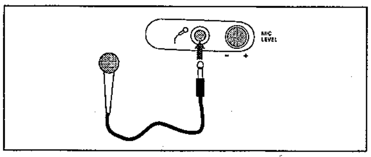
**During CD recording,**
- it is not advisable to fast forward/rewind your cassette in TAPE DECK 2.
- it is not possible to listen to another sound source.

**CD Recording**

1 Load a blank cassette (full spool to the left) into **tape deck 1**.
2 Press **SOURCE** to select CD.
3 Load a disc into the disc tray.
4 Press **PREV** or **NEXT** to select the desired track.
   If desired, you can program the tracks in the order you want them to be recorded (see Programming Tracks).
5 Press **RECORD** on cassette **tape deck 1** to start recording.
   → The RECORD flag flashes on the display.
   → The CD starts playing.
6 Press **STOP•CLEAR** of the CD compartment and **STOP•OPEN** on cassette **tape deck 1** to stop recording.

# KARAOKE

## Karaoke



**Microphone mixing**

1 Connect the microphone to the mic socket (🎤).
2 Press **SOURCE** to select CD, TUNER, TAPE or VIDEO/AUX.
3 Play the selected source.
4 Adjust the volume with **VOLUME** control.
5 Adjust the **MIC LEVEL** control to the mixing level that you want.
6 Start singing or talking through the microphone.

*Note:*
- *To prevent acoustics feedback (for example, a loud howling sound), adjust the MIC LEVEL control to the minimum before you plug in the microphone.*

**Recording the mixed sound**

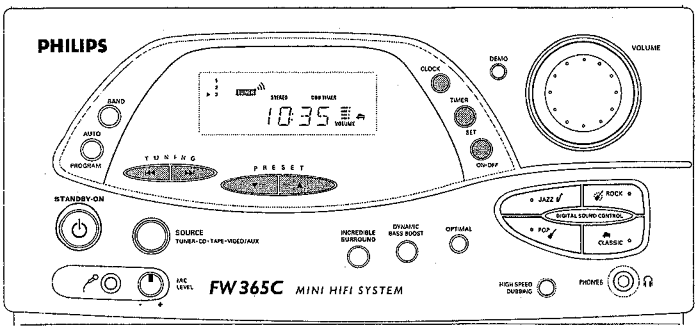
During microphone mixing, you can record the mixed sound on a cassette in TAPE DECK 1.

1 Load a blank cassette in **tape deck 1**.
2 Press **RECORD**.

*Notes:*
- *If you do not intend to record via the microphone, unplug the microphone to avoid accidental mixing with other recording source.*
- *It is not possible to record the mixed sound through a microphone during cassette Dubbing mode.*

# CLOCK SETTING

# TIMER SETTING


PHILIPS
VOLUME
DEMO
CLOCK
TIMER
SET
ON•OFF
BAND
AUTO
PROGRAM
TUNING
PRESET
STANDBY-ON
10:35
SOURCE
TUNER•CD•TAPE•VIDEO/AUX
INCREDIBLE SURROUND
DYNAMIC BASS BOOST
OPTIMAL
JAZZ
ROCK
DIGITAL SOUND CONTROL
POP
CLASSIC
REC LEVEL
FW365C MINI HIFI SYSTEM
HIGH SPEED DUBBING
PHONES

## Setting the clock

The clock will display in 24-hour mode, e.g. 00:00 or 23:59.

1 Press **CLOCK**.
→ "00:00" starts flashing.
2 Set the hour with **PRESET ▼** or **▲**.
3 Set the minute with **TUNING |◀◀** or **▶▶|** .
4 Press **CLOCK** again to store the setting.
→ The clock starts running.

*Note:*
– *When a power interruption occurs, the clock settings are erased.*

## Setting the Timer

- The system can switch on to TUNER or CD mode automatically at a preset time. It can serve as an alarm to wake you up. After half an hour from the preset time, the system will return to the standby mode.
- Before setting the timer, make sure the clock is set correctly.
- The timer works only once for each setting.
- **The volume of the timer will be at the last setting before the set is switched to standby mode.**

**Timer Setting**

1 Press **TIMER SET**.
→ The TIMER flag flashes.
2 Press **PRESET ▲** to select the desired sound source.
→ The display will switch as follows:
TUNER → CD → TUNER ...
3 Press **TIMER SET** to confirm your selection.
→ The display will show "ON 00:00" and "00:00" flashes.
4 Press **PRESET ▼** or **▲** to set the hour for the timer to start.
5 Press **TUNING |◀◀** or **▶▶|** to set the minutes for the timer to start.
6 Press **TIMER SET** to store the start time.
→ The TIMER is now set.
→ The TIMER flag remains lit.

**To stop the TIMER**
- Press **TIMER ON•OFF** on the set.
→ The TIMER is now off.

**To start the TIMER again**
- Press **TIMER ON•OFF** on the set.
→ The display will show the last set start time of the TIMER and its flag.
→ The TIMER flag remains lit.

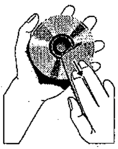
*Notes:*
1. *If the source selected is TUNER, the last tuned frequency will be switched on.*
2. *If the source selected is CD, playback will begin with the first track of the last selected disc. If the CD trays are empty, the TUNER source will be selected instead.*

# MAINTENANCE

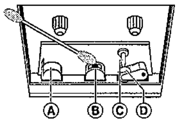
## Maintenance

**Cleaning the Cabinet**
- Use a soft cloth slightly moistened with a mild detergent solution. Do not use a solution containing alcohol, spirits, ammonia or abrasives.

**Cleaning Discs**
- When a disc becomes dirty, clean it with a cleaning cloth. Wipe the disc from the center out.
- Do not use solvents such as benzine, thinner, commercially available cleaners, or anti-static spray intended for analog records.



**Cleaning the Heads and the Tape Paths**
- To ensure good recording and playback quality, clean the heads Ⓐ and Ⓑ, the capstan Ⓒ, and pressure roller Ⓓ after every 50 hours of tape operation.



- Use a cotton swab slightly moistened with cleaning fluid or alcohol.

**Demagnetizing the heads**
- Use a demagnetizing cassette available at your dealer.

## TROUBLESHOOTING GUIDE

**Warning! Under no circumstances should you try to repair the set yourself, as this will invalidate the warranty.**

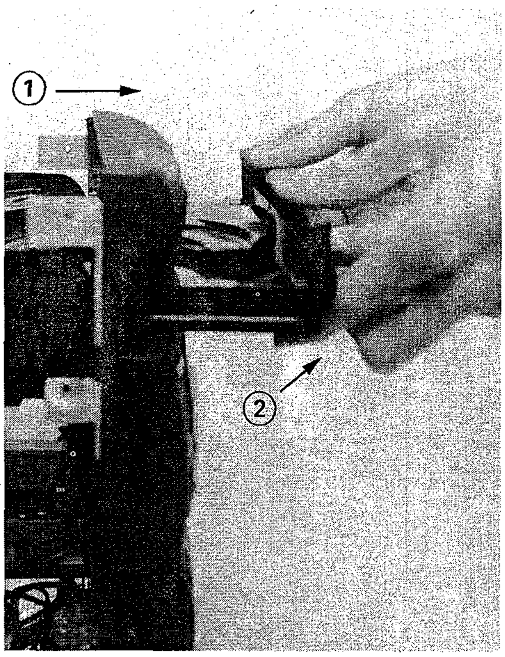
- If a fault occurs, check the points listed below before taking the set in for repair.
- Should any problems persist after you have made these checks, consult your nearest dealer or service center.

| SYMPTOM | POSSIBLE CAUSE | REMEDY |
|---|---|---|
| **RADIO RECEPTION** | | |
| The STEREO indicator flashes. | The signal is too weak. | Adjust the antenna. |
| Severe hum or noise. | The signal strength is too weak. | Adjust the antenna. |
| | The TV or VCR is too close to the stereo system. | Separate the stereo system from the TV or VCR. |
| | | Connect an external antenna for better reception. |
| **CASSETTE DECK OPERATION** | | |
| Recording is not possible. | No cassette in the cassette deck. | Insert a blank cassette into the cassette deck. |
| | The protection tab has been broken. | Put a piece of clear adhesive tape over the opening. |
| Recording or playback cannot be made or there is a decrease in audio level. | Dirty tape heads. | See section on cassette deck maintenance. |
| | Magnetic build-up in the record/playback head. | Use demagnetizing cassette. |
| Excessive wow or flutter, or sound drop-out. | Contamination of the capstans or pressure rollers. | See section on cassette deck maintenance. |
| **CD PLAYER OPERATION** | | |
| "NO DISC" is displayed. | The disc is inserted upside down. | Place CD with printed side up. |
| | Moisture condensation. | Wait until lens has adjusted to normal room temperature. |
| | There is no disc in the CD tray. | Insert a CD. |
| | The CD is dirty, badly scratched or warped. | Replace or clean the CD. |
| **GENERAL** | | |
| Set not working. | Set does not react when buttons are pressed. | Press STANDBY-ON to switch the unit off, then switch it on again. Or, unplug the AC power plug from the wall outlet, then plug it in again. |
| No or poor sound. | Volume is not turned up. | Adjust VOLUME. |
| | The headphones are connected. | Disconnect the headphones. |
| | Speakers are not connected or are connected wrongly. | Check that the speakers are connected correctly. |
| | | Make sure that the stripped speaker wire is clamped. |
| Reversed left and right sound. | Speakers are connected wrongly. | Check the speaker connections and speaker location. |

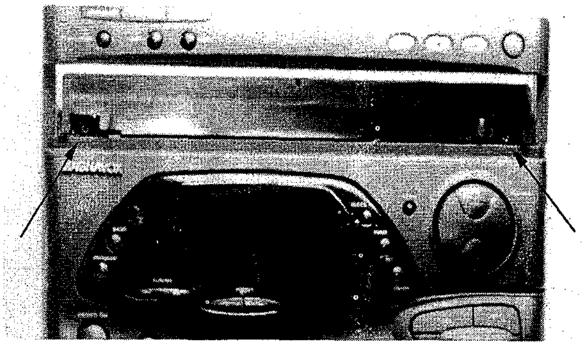
## TROUBLESHOOTING GUIDE

| | | |
|---|---|---|
| Lack of bass sound or apparently imprecise physical location of musical instruments. | Speakers are connected wrongly. | Check the speaker connection for proper phasing, red/black wires to red/black terminals. |
| Clock blinking. | There was a power disruption. | Reset the clock. |
| Remote control has no effect on the set. | The distance to the system is too large. | Reduce the distance. |
| | Batteries are inserted incorrectly. | Insert the batteries correctly. |
| | Batteries are exhausted. | Replace the batteries. |
| | Wrong sound source is selected. | Select the sound source before pressing the function button (PLAY, PREV./NEXT, etc.). |
| Timer not working. | Timer not on. | Press TIMER ON•OFF on the set to switch on the timer. |
| | Dubbing/recording is active. | Stop dubbing/recording. |
| "PRESS DEMO TO EXIT" is displayed. | Demo mode is switched on. | Press STANDBY-ON or DEMO to switch off the demo. |

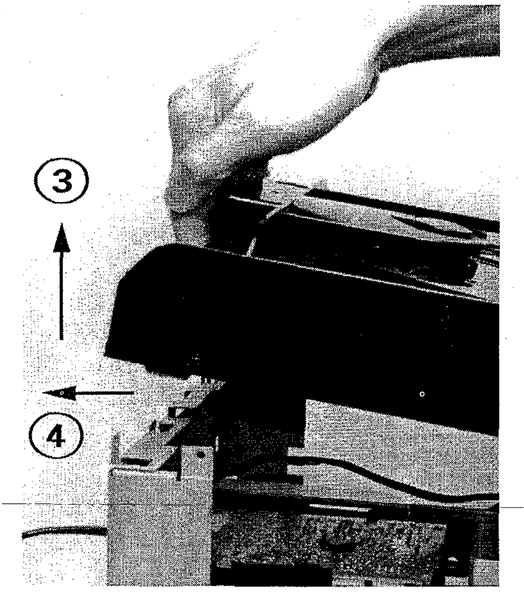
# Dismantling of Front



1) Remove top cover
2) Loosen 3X screw on bottom
3) Slide the CD tray out as shown in arrow 1.
4) Remove the CD door as indicated.

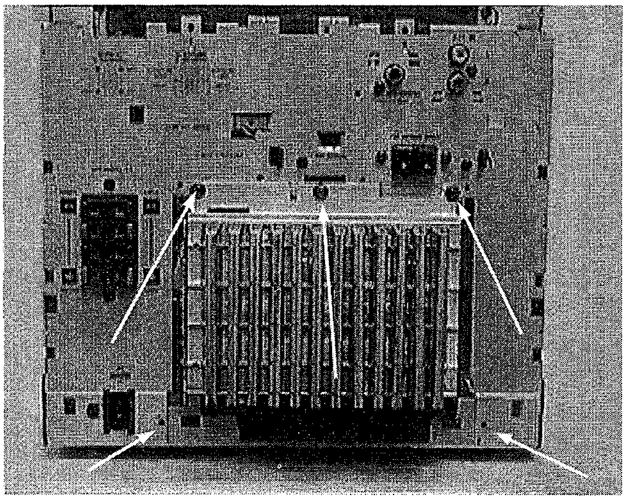


5) Loosen 2X screw from the front panel at the CD tray.

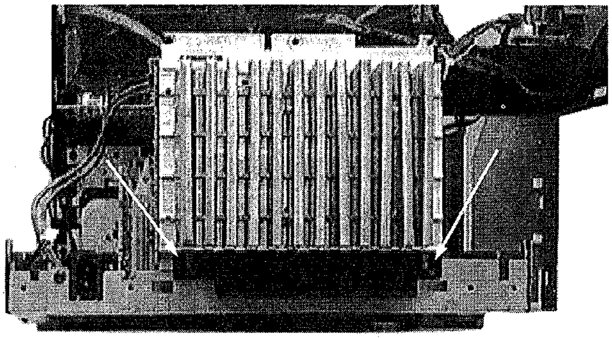


6) Lift the CDC module up and remove the module as indicated in arrow 3.

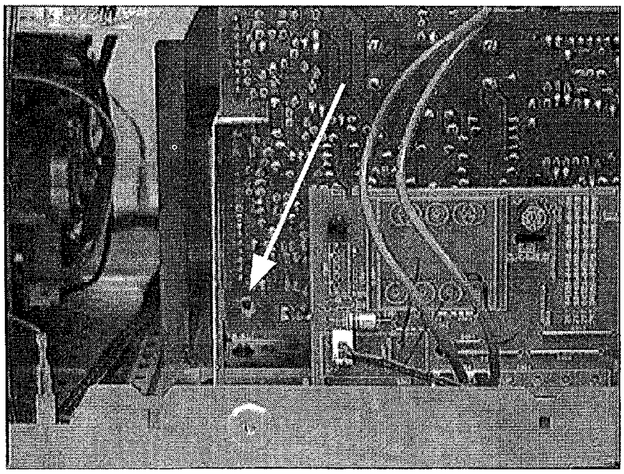
## Servicing Hints for dismantling Power Board



Remove the 5x screw from the back panel attached to the heatsink.

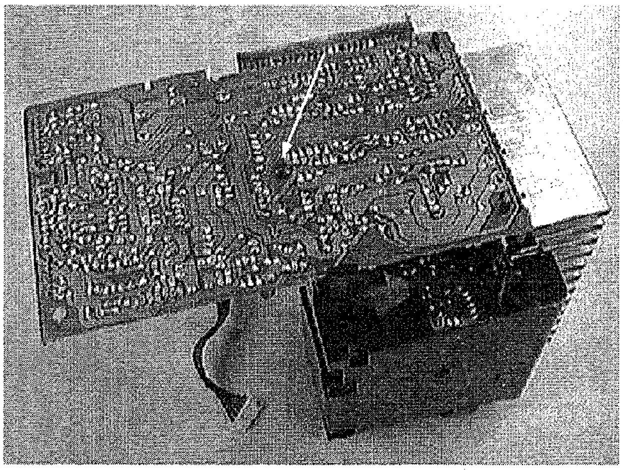


Remove the 2x screw on the heatsink bracket indicated in the diagram above.

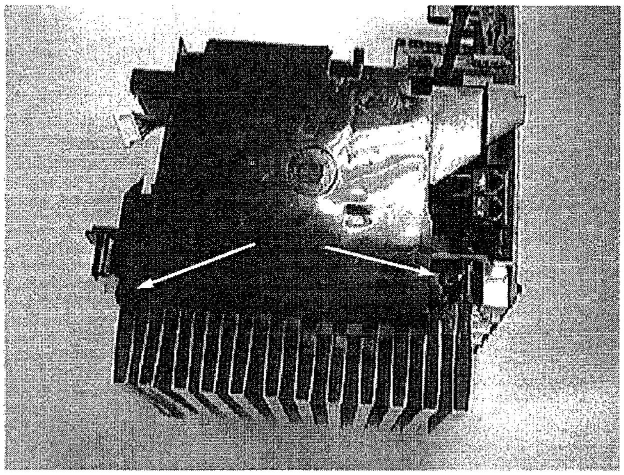


Remove the 1x screw on the transformer board before taking out the whole power board

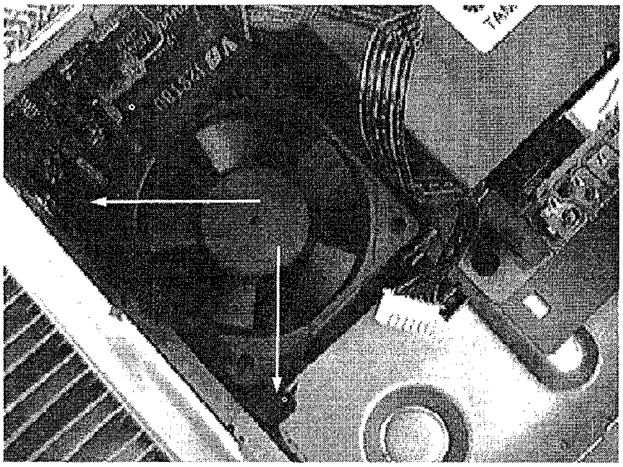
## Servicing Hints for dismantling Fan Module



Remove the 1x screw on the power board before goin to the step below.



Remove the 2x screw on the fan bracket.



Remove the 2x screw on the fan bracket before removing the fan.

## SERVICE TEST PROGRAM

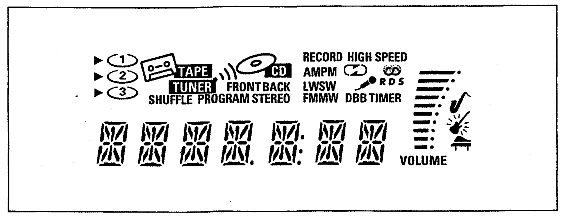
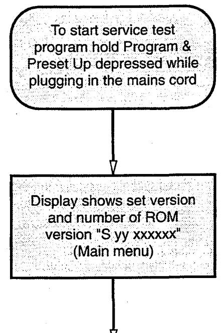

1
2
3
TAPE
CD
TUNER
FRONT BACK
SHUFFLE PROGRAM STEREO
RECORD HIGH SPEED
AMPM
LWSW
FMMW DBB TIMER
RDS
VOLUME

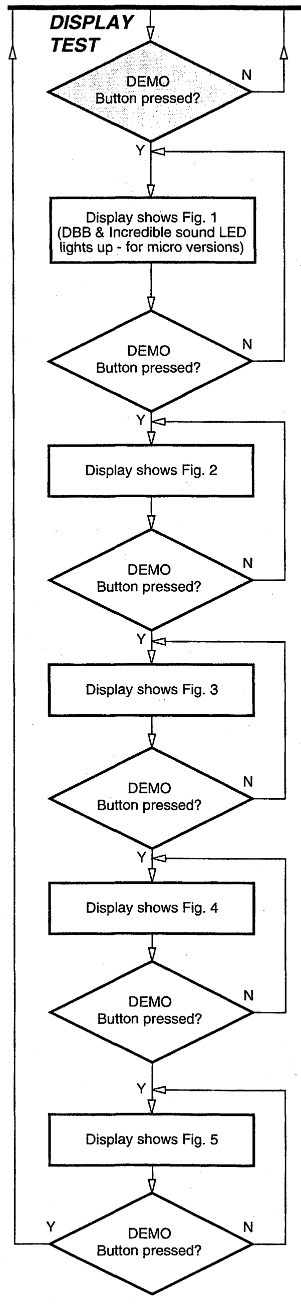
Figure 1

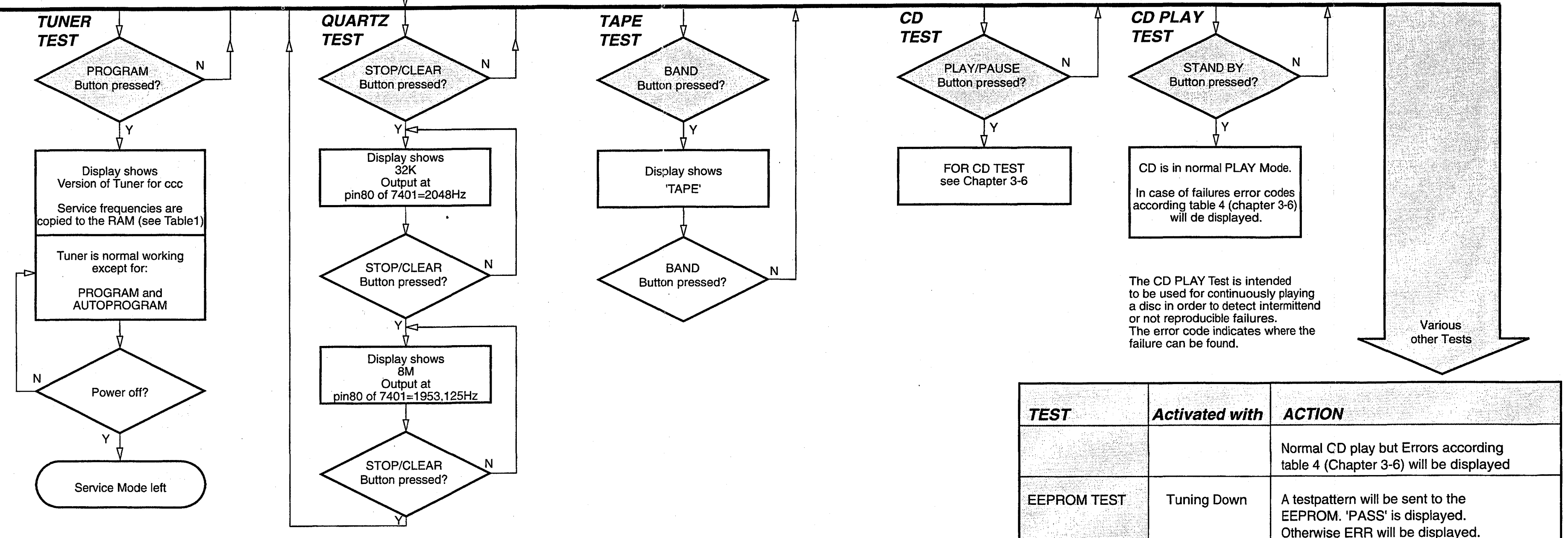

To start service test program hold Program & Preset Up depressed while plugging in the mains cord
Display shows set version and number of ROM version "S yy xxxxxx" (Main menu)

1) S stands for Service Testprogram

yy stands for software version number of uP on Front Board (counted from 01 upwards)

xxxxxx stands for model numbers (NOT APPLICABLE IN SERVICE MODE)


DISPLAY TEST
DEMO Button pressed?
N
Y
Display shows Fig. 1 (DBB & Incredible sound LED lights up - for micro versions)
DEMO Button pressed?
N
Y
Display shows Fig. 2
DEMO Button pressed?
N
Y
Display shows Fig. 3
DEMO Button pressed?
N
Y
Display shows Fig. 4
DEMO Button pressed?
N
Y
Display shows Fig. 5
Y
DEMO Button pressed?
N


TUNER TEST
PROGRAM Button pressed?
N
Y
Display shows Version of Tuner for ccc
Service frequencies are copied to the RAM (see Table1)
Tuner is normal working except for:
PROGRAM and AUTOPROGRAM
N
Power off?
Y
Service Mode left
QUARTZ TEST
STOP/CLEAR Button pressed?
N
Y
Display shows 32K Output at pin80 of 7401=2048Hz
STOP/CLEAR Button pressed?
N
Y
Display shows 8M Output at pin80 of 7401=1953,125Hz
STOP/CLEAR Button pressed?
N
Y
TAPE TEST
BAND Button pressed?
Y
Display shows 'TAPE'
BAND Button pressed?
N
CD TEST
PLAY/PAUSE Button pressed?
N
Y
FOR CD TEST see Chapter 3-6
CD PLAY TEST
STAND BY Button pressed?
N
Y
CD is in normal PLAY Mode.
In case of failures error codes according table 4 (chapter 3-6) will de displayed.
Various other Tests

The CD PLAY Test is intended to be used for continuously playing a disc in order to detect intermittend or not reproducible failures. The error code indicates where the failure can be found.

| TEST | Activated with | ACTION |
|---|---|---|
| | | Normal CD play but Errors according table 4 (Chapter 3-6) will be displayed |
| EEPROM TEST | Tuning Down | A testpattern will be sent to the EEPROM. 'PASS' is displayed. Otherwise ERR will be displayed. |
| EEPROM CLEAR | Preset Down | Load default data. Display shows NEW for 1 second.<br>***Caution!***<br>***All presets from the customer are lost!!*** |
| KEY TEST | Preset Up | Key numbers according table 5 are shown on the display. (see Chapter 3-6) |
| FAST CLOCK TEST | DBB | The clock is switched to fast mode. 'FAST' is displayed for 2 sec.<br>Press DBB again to reset the clock to normal. 'NOM' displayed for 2 sec. |
| LEAVE SERVICE TESTPROGRAM | disconnect mains | |

| PRESET | Europe "EUR" | East Europe "EAS" | USA "USA" | Oversea "OSE" | Korea "KOR" |
|---|---|---|---|---|---|
| 1 | 87.5MHz | 65.81MHz | 87.5MHz | 87.5MHz | 87.5MHz |
| 2 | 108MHz | 108MHz | 108MHz | 108MHz | 108MHz |
| 3 | 531kHz | 74MHz | 530kHz | 531/530kHz | 531kHz |
| 4 | 1602kHz | 87.5MHz | 1700kHz | 1602/1700kHz | 1602kHz |
| 5 | 558kHz | 531kHz | 560kHz | 558/560kHz | 558kHz |
| 6 | 1494kHz | 1602kHz | 1500kHz | 1494/1500kHz | 1494kHz |
| 7 | 153kHz | 558kHz | 98.0MHz | 87.5MHz | 87.5MHz |
| 8 | 279kHz | 1494kHz | 87.5MHz | 87.5MHz | 87.5MHz |
| 9 | 198kHz | 153kHz | 87.5MHz | 87.5MHz | 87.5MHz |
| 10 | 98MHz | 279kHz | 87.5MHz | 87.5MHz | 98MHz |
| 11 | 87.5MHz | 198kHz | 87.5MHz | 98MHz | 98MHz |

Table 1

East Europe Tuner IF offset correction

1) Input a reference frequency 87.5MHz from the generator.
2) Proceed to the Tuner Test mode. (Press PROGRAM button).
3) Offset calibration will start to calibrate automatically. (Display will show XX)

XX : offset value

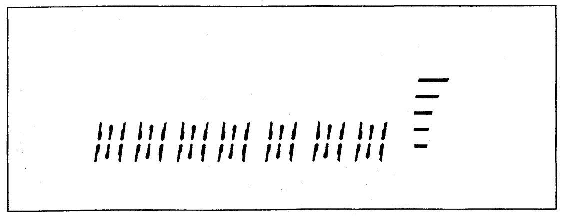


Figure 2

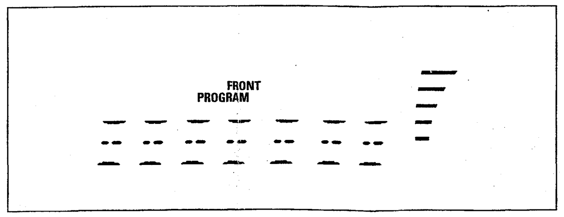

FRONT
PROGRAM

Figure 3

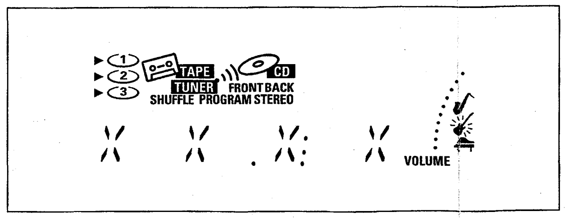

1
2
3
TAPE
CD
TUNER
FRONT BACK
SHUFFLE PROGRAM STEREO
VOLUME

Figure 4

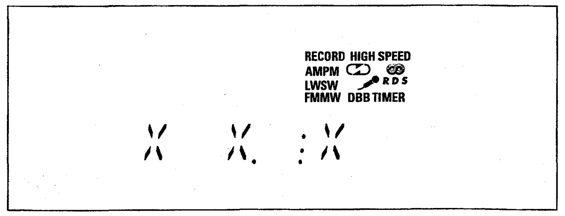

RECORD HIGH SPEED
AMPM
LWSW
FMMW DBB TIMER
RDS

Figure 5

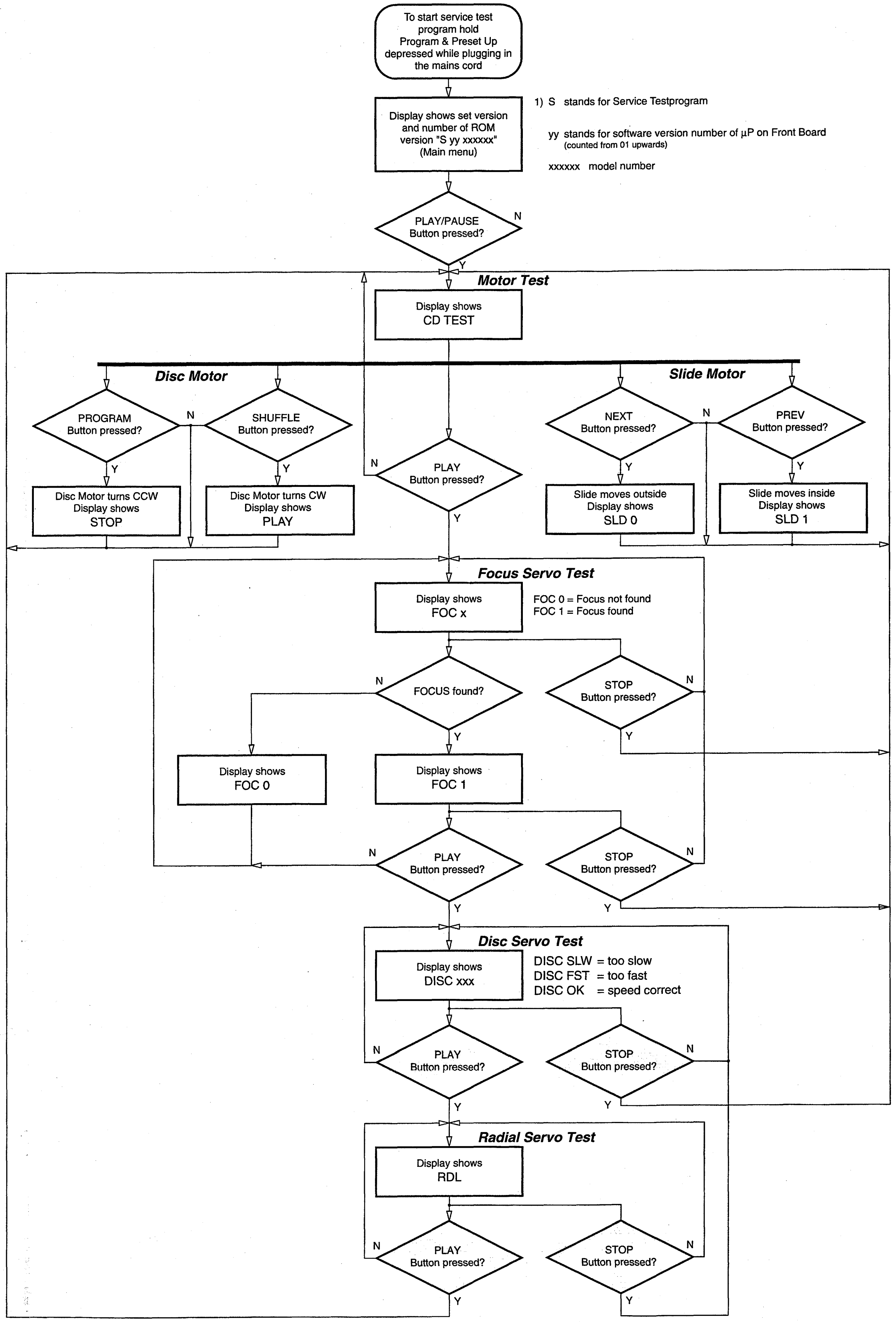
| Error number | CD Error description |
|---|---|
| E 1002 | Focus error<br>Triggered when the focus could not found within a certain time when starting up the CD, or when the focus is lost for more than a certain time during playing the CD. |
| E 1007 | Subcode error (no subcode within certain time) |
| E 1008 | TOC error<br>Triggered when during reading the TOC the lead-in(track nr. 0) is left. This can be caused by a misaligned Inner-switch or by a disc with a mispositioned lead-in. |
| E 1010 | Radial error<br>Triggered when the radial servo is not on track for a certain time during playing the CD. |
| E 1011 | Sledge error<br>Generated when the Inner-switch did not open within a certain time when the pickup is moved to the inner position. |
| E 1012 | Fatal sledge error<br>Triggered when the Inner-switch did not close within a certain time when moving the pickup inside. Inner-switch or sledge motor problem. |
| E 1013 | Turnatble motor error<br>Generated when the CD did not reach 75% of speed during startup within a certain time. Disc motor problem. |
| E 1014 | Jump-offtrack error (too less grooves within time) |
| E 1020 | PLL locked error<br>Triggered when the PLL of the decoder did not locked within a certain time. |
| E 1070 | Carousel blocked in a disc position |
| E 1071 | Carousel blocked in the middle |
| E 1075 | Drawer blocked in the middle |
| E 1076 | Drawer blocked in open or closed state |

**For FW335**

| Key activated | Display | Key activated | Display | Key activated | Display |
|---|---|---|---|---|---|
| Stop/Clear | 01 | Clock Set | 11 | Incredible Sound | 21 |
| Program (CD) | 02 | Timer Set | 12 | Dbb | 22 |
| Shuffle | 03 | Timer On/Off | 13 | Optimal | 23 |
| Search/Prev | 04 | Demo | 14 | Jazz | 24 |
| Play/Pause | 05 | Tuning Down | 15 | Rock | 25 |
| Search/Next | 06 | Tuning Up | 16 | Pop | 26 |
| CD Open/Close | 07 | Preset Down | 17 | Classic | 27 |
| Program (TU) | 08 | Preset Up | 18 | HSD | 28 |
| Band | 09 | Power/Standby | 19 | any RC keys | RC |
| RDS Mode | 10 | Scroll Source | 20 | | |

**For FW315C/FW340C/FW345C/FW355C/FW365C**

| Key activated | Display | Key activated | Display | Key activated | Display |
|---|---|---|---|---|---|
| Stop/Clear | 01 | RDS Mode | 13 | Scroll Source | 25 |
| Program (CDC) | 02 | Clock Set | 14 | Incredible Stereo | 26 |
| Shuffle | 03 | Timer Set | 15 | Dbb | 27 |
| Search/Prev | 04 | Timer On/Off | 16 | Optimal | 28 |
| Play/Pause | 05 | Demo | 17 | Jazz | 29 |
| Search/Next | 06 | Volume Up | 18 | Rock | 30 |
| Disc 1 | 07 | Volume Down | 19 | Pop | 31 |
| Disc 2 | 08 | Tuning Down | 20 | Classic | 32 |
| Disc 3 | 09 | Tuning Up | 21 | HSD | 33 |
| CD Open Close | 10 | Preset Down | 22 | any RC keys | RC |
| Program (TU) | 11 | Preset Up | 23 | | |
| Band | 12 | Power/Standby | 24 | | |

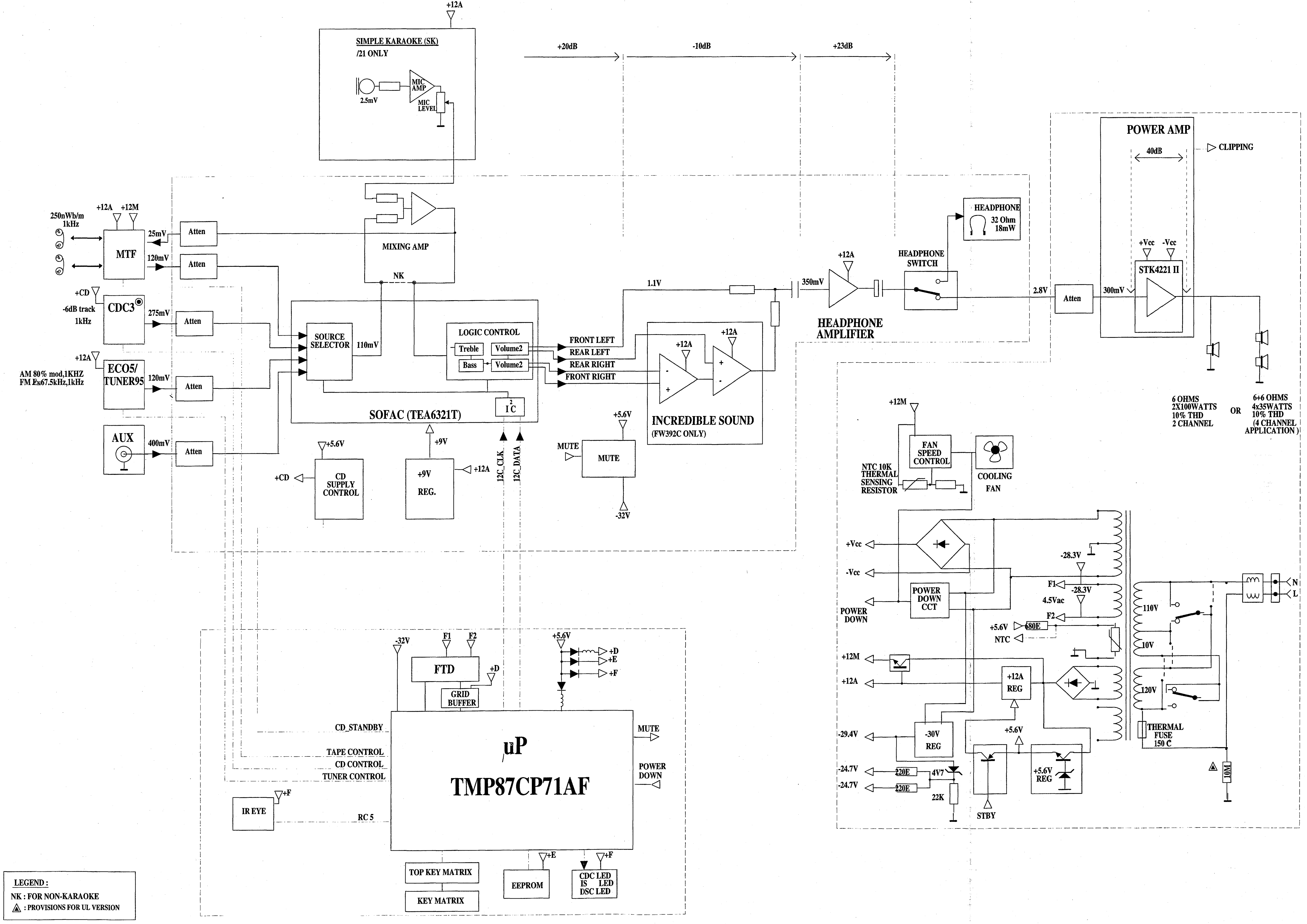

To start service test program hold Program & Preset Up depressed while plugging in the mains cord
Display shows set version and number of ROM version "S yy xxxxxx" (Main menu)
PLAY/PAUSE Button pressed?
N
Y
Motor Test
Display shows CD TEST
Disc Motor
PROGRAM Button pressed?
N
SHUFFLE Button pressed?
Y
Y
Disc Motor turns CCW Display shows STOP
Disc Motor turns CW Display shows PLAY
N
PLAY Button pressed?
Y
Slide Motor
NEXT Button pressed?
N
PREV Button pressed?
Y
Y
Slide moves outside Display shows SLD 0
Slide moves inside Display shows SLD 1
Focus Servo Test
Display shows FOC x
FOC 0 = Focus not found
FOC 1 = Focus found
N
FOCUS found?
Y
STOP Button pressed?
N
Y
Display shows FOC 0
Display shows FOC 1
N
PLAY Button pressed?
Y
STOP Button pressed?
N
Y
Disc Servo Test
Display shows DISC xxx
DISC SLW = too slow
DISC FST = too fast
DISC OK = speed correct
N
PLAY Button pressed?
Y
STOP Button pressed?
N
Y
Radial Servo Test
Display shows RDL
N
PLAY Button pressed?
Y
STOP Button pressed?
N
Y

1) S stands for Service Testprogram

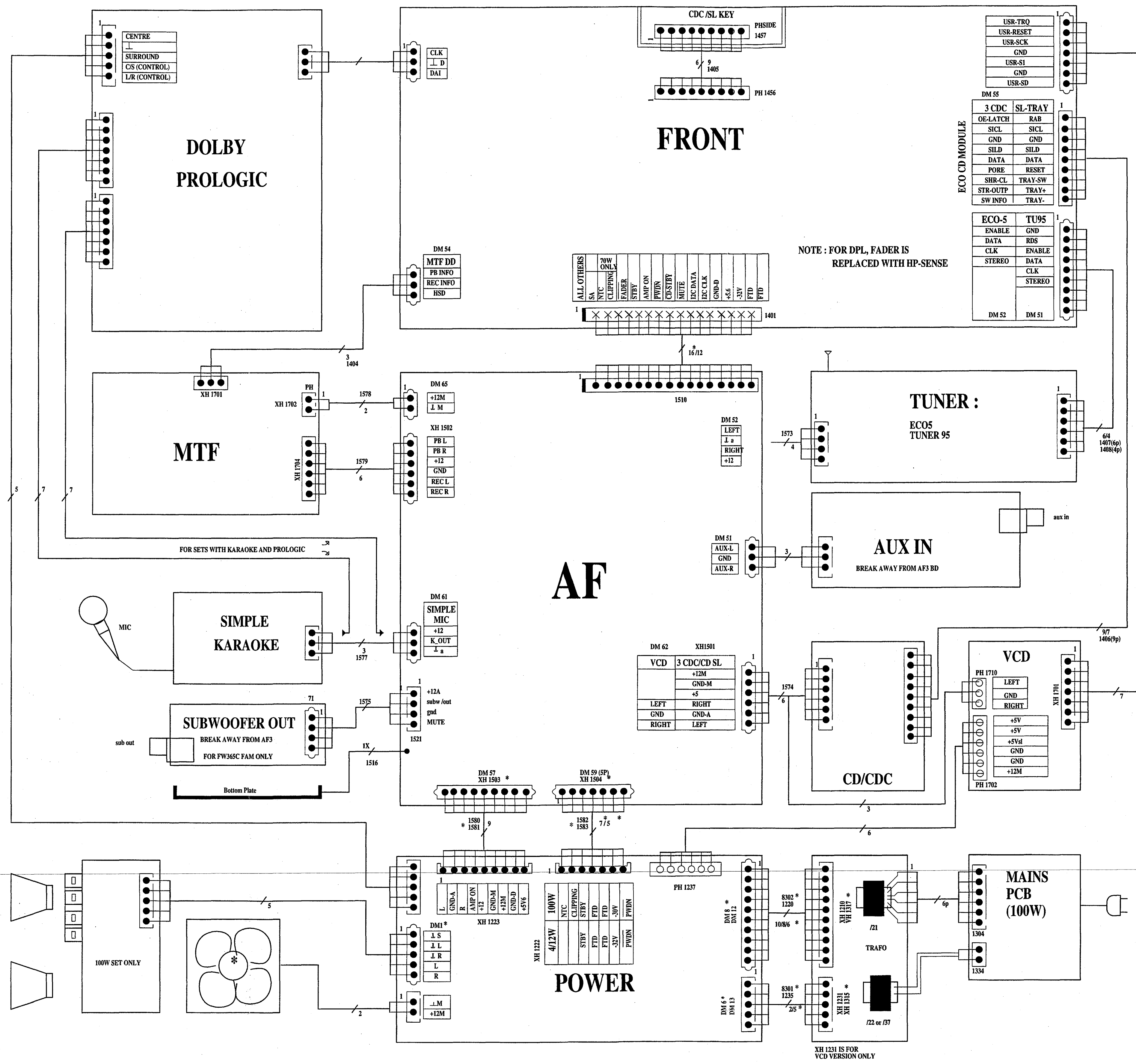
yy stands for software version number of µP on Front Board (counted from 01 upwards)

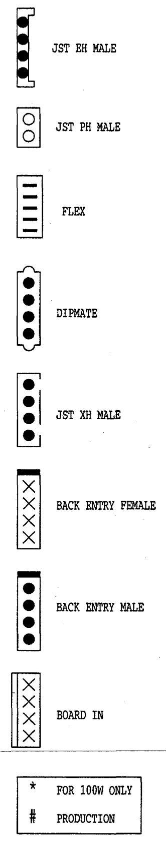
xxxxxx model number

## BLOCK DIAGRAM


+12A
SIMPLE KARAOKE (SK)
/21 ONLY
2.5mV
MIC AMP
MIC LEVEL
+20dB
-10dB
+23dB
MIXING AMP
NK
250nWb/m
1kHz
+12A +12M
MTF
25mV
120mV
Atten
+CD
-6dB track
1kHz
CDC3
275mV
+12A
AM 80% mod,1KHZ
FM ∆f=67.5kHz,1kHz
ECO5/
TUNER95
120mV
AUX
400mV
SOURCE SELECTOR
110mV
LOGIC CONTROL
Treble
Volume2
Bass
Volume2
I2C
SOFAC (TEA6321T)
FRONT LEFT
REAR LEFT
REAR RIGHT
FRONT RIGHT
1.1V
+12A
INCREDIBLE SOUND
(FW392C ONLY)
350mV
HEADPHONE AMPLIFIER
HEADPHONE SWITCH
HEADPHONE
32 Ohm
18mW
2.8V
300mV
POWER AMP
40dB
CLIPPING
+Vcc -Vcc
STK4221 II
6 OHMS
2X100WATTS
10% THD
2 CHANNEL
OR
6+6 OHMS
4x35WATTS
10% THD
(4 CHANNEL APPLICATION)
+5.6V
+CD
CD SUPPLY CONTROL
+9V
+9V REG.
+12A
I2C_CLK
I2C_DATA
+5.6V
MUTE
MUTE
-32V
+12M
FAN SPEED CONTROL
COOLING FAN
NTC 10K THERMAL SENSING RESISTOR
+Vcc
-Vcc
-28.3V
F1
-28.3V
4.5Vac
F2
POWER DOWN
POWER DOWN CCT
+5.6V
680E
NTC
+12M
+12A
+12A REG
110V
10V
120V
N
L
THERMAL FUSE
150 C
-29.4V
-30V REG
+5.6V
-24.7V
-24.7V
220E
220E
4V7
22K
STBY
+5.6V REG
10M
-32V
F1
F2
+5.6V
FTD
+D
+E
+F
+D
GRID BUFFER
CD_STANDBY
TAPE CONTROL
CD CONTROL
TUNER CONTROL
uP
TMP87CP71AF
MUTE
POWER DOWN
IR EYE
+F
RC 5
TOP KEY MATRIX
KEY MATRIX
EEPROM
+E
+F
CDC LED
IS LED
DSC LED
LEGEND :
NK : FOR NON-KARAOKE
⚠ : PROVISIONS FOR UL VERSION

## WIRING DIAGRAM


DOLBY
PROLOGIC
CENTRE
⊥
SURROUND
C/S (CONTROL)
L/R (CONTROL)
FRONT
CDC /SL KEY
PHSIDE
1457
PH 1456
1405
CLK
⊥ D
DAI
DM 54
MTF DD
PB INFO
REC INFO
HSD
ALL OTHERS
70W ONLY
SA
NTC
CLIPPING
FADER
STBY
AMP ON
PWDN
CD-STBY
MUTE
I2C DATA
I2C CLK
GND-D
+5.6
-32V
FTD
FTD
1401
16 /12
USR-TRQ
USR-RESET
USR-SCK
GND
USR-S1
GND
USR-SD
DM 55
ECO CD MODULE
3 CDC
SL-TRAY
OE-LATCH
RAB
SICL
SICL
GND
GND
SILD
SILD
DATA
DATA
PORE
RESET
SHR-CL
TRAY-SW
STR-OUTP
TRAY+
SW INFO
TRAY-
ECO-5
TU95
ENABLE
GND
DATA
RDS
CLK
ENABLE
STEREO
DATA
CLK
STEREO
DM 52
DM 51
NOTE : FOR DPL, FADER IS REPLACED WITH HP-SENSE
3
1404
XH 1701
MTF
PH
XH 1702
XH 1704
1578
2
1579
6
AF
DM 65
+12M
⊥ M
XH 1502
PB L
PB R
+12
GND
REC L
REC R
1510
DM 52
LEFT
⊥ a
RIGHT
+12
1573
4
TUNER :
ECO5
TUNER 95
6/4
1407(6p)
1408(4p)
AUX IN
BREAK AWAY FROM AF3 BD
aux in
DM 51
AUX-L
GND
AUX-R
3
FOR SETS WITH KARAOKE AND PROLOGIC
5
7
7
MIC
SIMPLE
KARAOKE
DM 61
SIMPLE MIC
+12
K_OUT
⊥ a
3
1577
DM 62
XH1501
VCD
3 CDC/CD SL
+12M
GND-M
+5
LEFT
RIGHT
GND
GND-A
RIGHT
LEFT
1574
6
CD/CDC
9/7
1406(9p)
VCD
PH 1710
LEFT
GND
RIGHT
XH 1701
7
+5V
+5V
+5Vsl
GND
GND
+12M
PH 1702
SUBWOOFER OUT
BREAK AWAY FROM AF3
FOR FW365C FAM ONLY
sub out
71
1575
+12A
subw /out
gnd
MUTE
1521
1X
1516
Bottom Plate
DM 57
XH 1503
DM 59 (5P)
XH 1504
1580
1581
9
1582
1583
7/5
3
6
100W SET ONLY
5
2
POWER
DM1
⊥ S
⊥ L
⊥ R
L
R
⊥M
+12M
L
GND-A
R
AMP ON
+12
GND-M
+12M
GND-D
+5V6
XH 1223
100W
4/12W
XH 1222
NTC
CLIPPING
STBY
FTD
FTD
-30V
-32V
PWDN
PH 1237
DM 8
DM 12
8302
1220
10/8/6
DM 6
DM 13
8301
1235
2/5
XH 1210
VH 1217
/21
TRAFO
XH 1231
XH 1315
/22 or /37
6p
MAINS
PCB
(100W)
1304
1334
XH 1231 IS FOR
VCD VERSION ONLY


JST EH MALE
JST PH MALE
FLEX
DIPMATE
JST XH MALE
BACK ENTRY FEMALE
BACK ENTRY MALE
BOARD IN
* FOR 100W ONLY
# PRODUCTION

# FRONT BOARD

## TABLE OF CONTENTS

Component layout ........................................................... 6-1
Circuit diagram.................................................................. 6-2
Chip component layout..................................................... 6-3
LCD pin connection .......................................................... 6-3
Electrical parts list............................................................. 6-4

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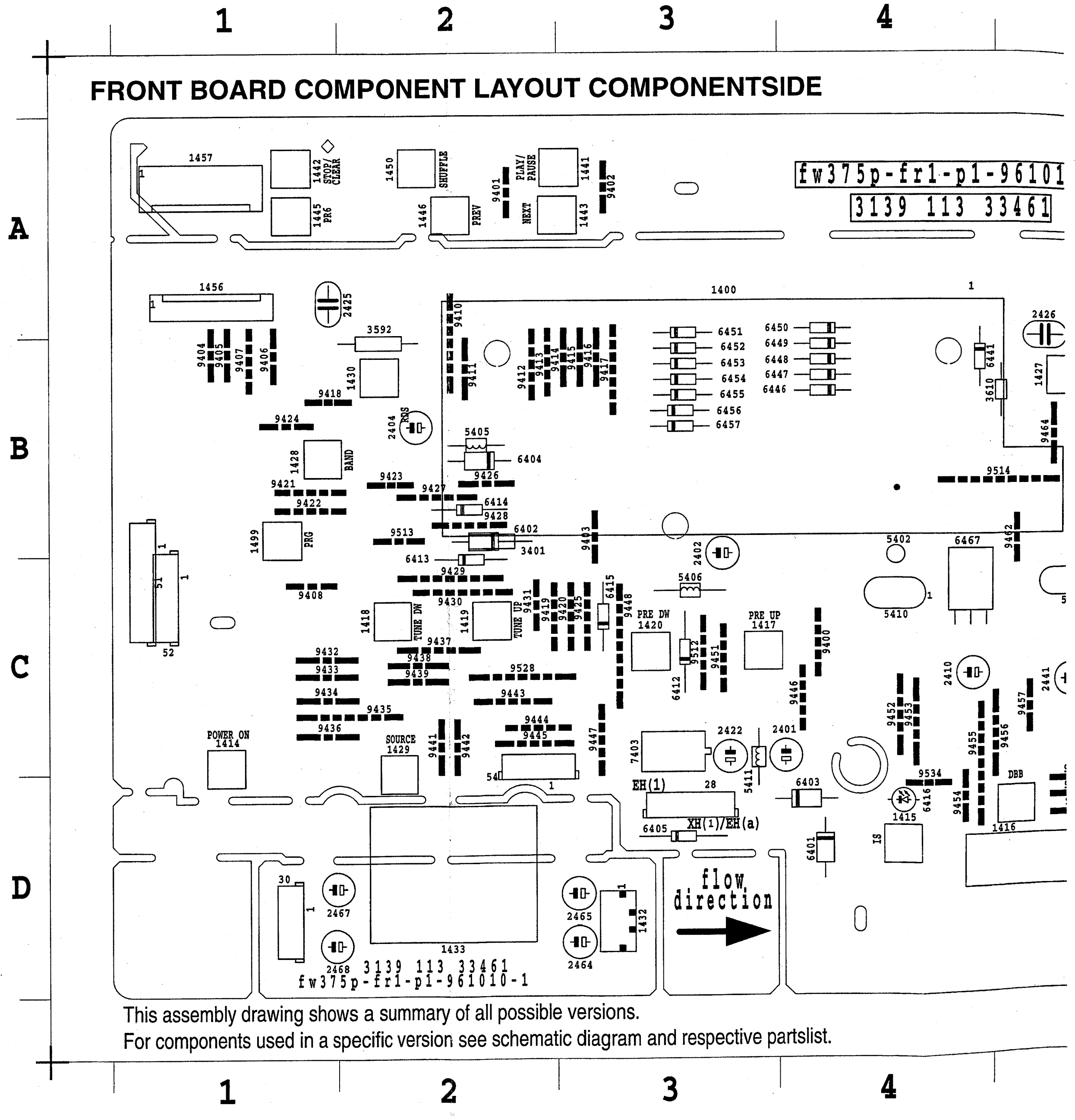
## COMPONENT LAYOUT DIAGRAM

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 28 | D 3 | 1414 | C 1 | 1426 | B 5 | 1445 | A 1 | 2404 | B 2 | 3592 | B 2 | 6404 | B 2 | 6422 | A 6 | 6455 | B 3 | 9407 | B 1 | 9420 | C 3 | 9432 | C |
| 30 | D 1 | 1415 | D 4 | 1427 | B 5 | 1446 | A 2 | 2410 | C 4 | 3610 | B 5 | 6405 | D 3 | 6423 | A 7 | 6456 | B 3 | 9408 | C 1 | 9421 | B 1 | 9433 | C |
| 51 | C 1 | 1416 | D 5 | 1428 | B 1 | 1447 | A 6 | 2422 | C 3 | 5402 | C 4 | 6412 | C 3 | 6441 | B 4 | 6457 | B 3 | 9410 | B 2 | 9422 | B 1 | 9434 | C |
| 52 | C 1 | 1417 | C 3 | 1429 | D 2 | 1448 | A 6 | 2425 | A 1 | 5403 | C 5 | 6413 | C 2 | 6446 | B 4 | 6467 | C 4 | 9411 | B 2 | 9423 | B 2 | 9435 | C |
| 54 | C 2 | 1418 | C 2 | 1430 | B 2 | 1449 | A 7 | 2426 | B 5 | 5405 | B 2 | 6414 | B 2 | 6447 | B 4 | 7403 | C 3 | 9412 | B 2 | 9424 | B 1 | 9436 | C |
| 55 | B 7 | 1419 | C 2 | 1431 | B 5 | 1450 | A 2 | 2441 | C 5 | 5406 | C 3 | 6415 | C 3 | 6448 | B 4 | 9400 | C 4 | 9413 | B 2 | 9425 | C 3 | 9437 | C |
| 1400 | A 3 | 1420 | C 3 | 1432 | D 3 | 1456 | A 1 | 2464 | D 3 | 5410 | C 4 | 6416 | D 4 | 6449 | B 4 | 9401 | A 2 | 9414 | B 3 | 9426 | B 2 | 9438 | C |
| 1401 | D 5 | 1421 | B 7 | 1433 | D 2 | 1457 | A 1 | 2465 | D 3 | 5411 | C 3 | 6417 | C 6 | 6450 | A 4 | 9402 | A 3 | 9415 | B 3 | 9427 | B 2 | 9439 | C |
| 1410 | C 6 | 1422 | A 7 | 1441 | A 3 | 1468 | B 7 | 2467 | D 1 | 5421 | C 5 | 6418 | C 6 | 6451 | A 3 | 9403 | B 3 | 9416 | B 3 | 9428 | B 2 | 9441 | C |
| 1411 | C 7 | 1423 | D 6 | 1442 | A 1 | 1499 | B 1 | 2468 | D 1 | 6401 | D 4 | 6419 | C 7 | 6452 | B 3 | 9404 | B 1 | 9417 | B 3 | 9429 | C 2 | 9442 | C |
| 1412 | C 7 | 1424 | B 6 | 1443 | A 3 | 2401 | C 4 | 3401 | B 2 | 6402 | B 2 | 6420 | C 7 | 6453 | B 3 | 9405 | B 1 | 9418 | B 1 | 9430 | C 2 | 9443 | C |
| 1413 | C 6 | 1425 | D 5 | 1444 | A 7 | 2402 | B 3 | 3591 | A 6 | 6403 | D 4 | 6421 | A 6 | 6454 | B 3 | 9406 | B 1 | 9419 | C 2 | 9431 | C 2 | 9444 | C |

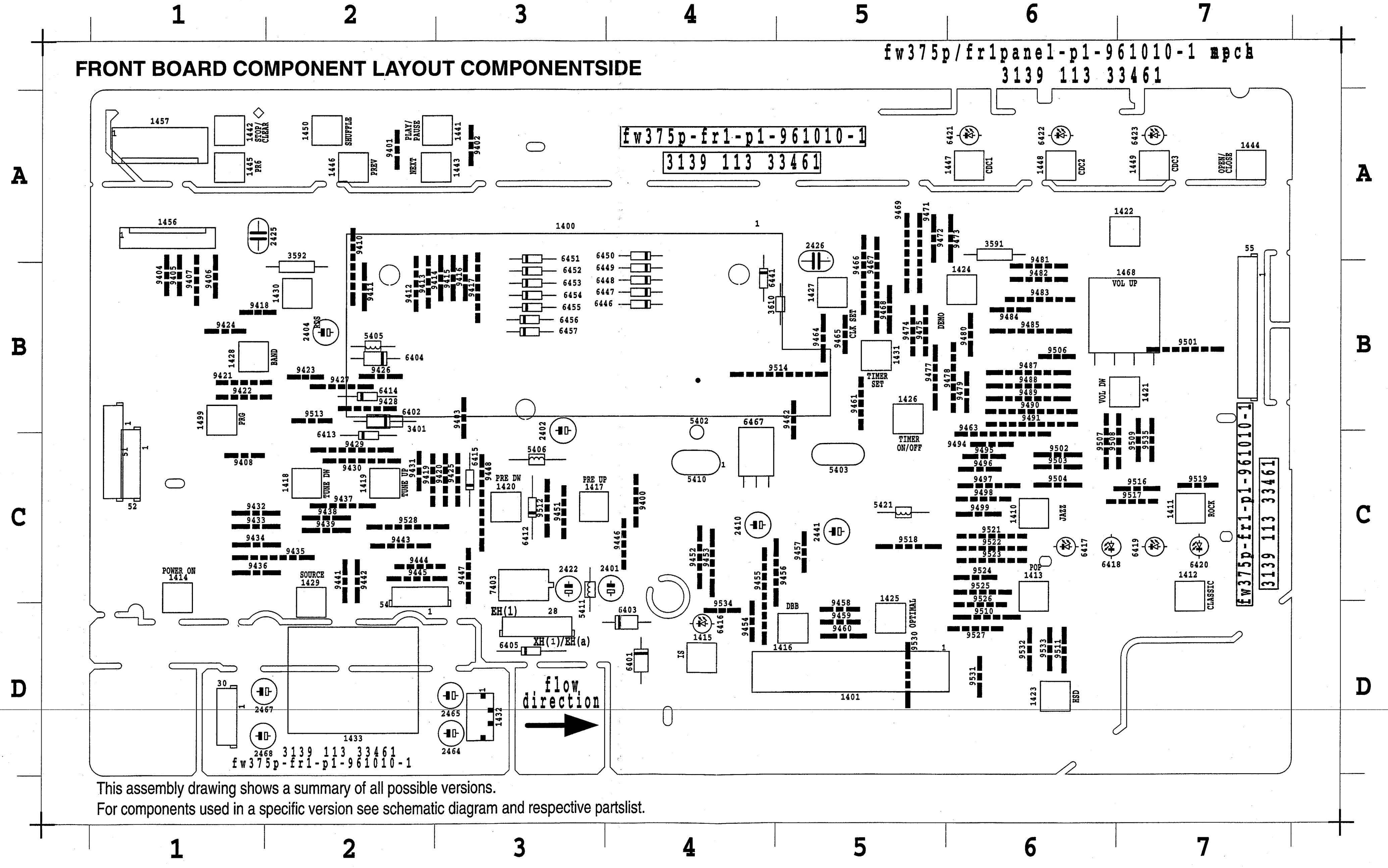
### FRONT BOARD COMPONENT LAYOUT COMPONENTSIDE


1
2
3
4
A
B
C
D
fw375p-fr1-p1-96101
3139 113 3346
STOP/CLEAR
SHUFFLE
PLAY/PAUSE
PREV
NEXT
PRG
BAND
TUNE DN
TUNE UP
PRE DW
PRE UP
POWER ON
SOURCE
DBB
IS
EH(1)
XH(1)/EH(a)
flow direction
3139 113 33461
fw375p-fr1-p1-961010-1

This assembly drawing shows a summary of all possible versions.
For components used in a specific version see schematic diagram and respective partslist.

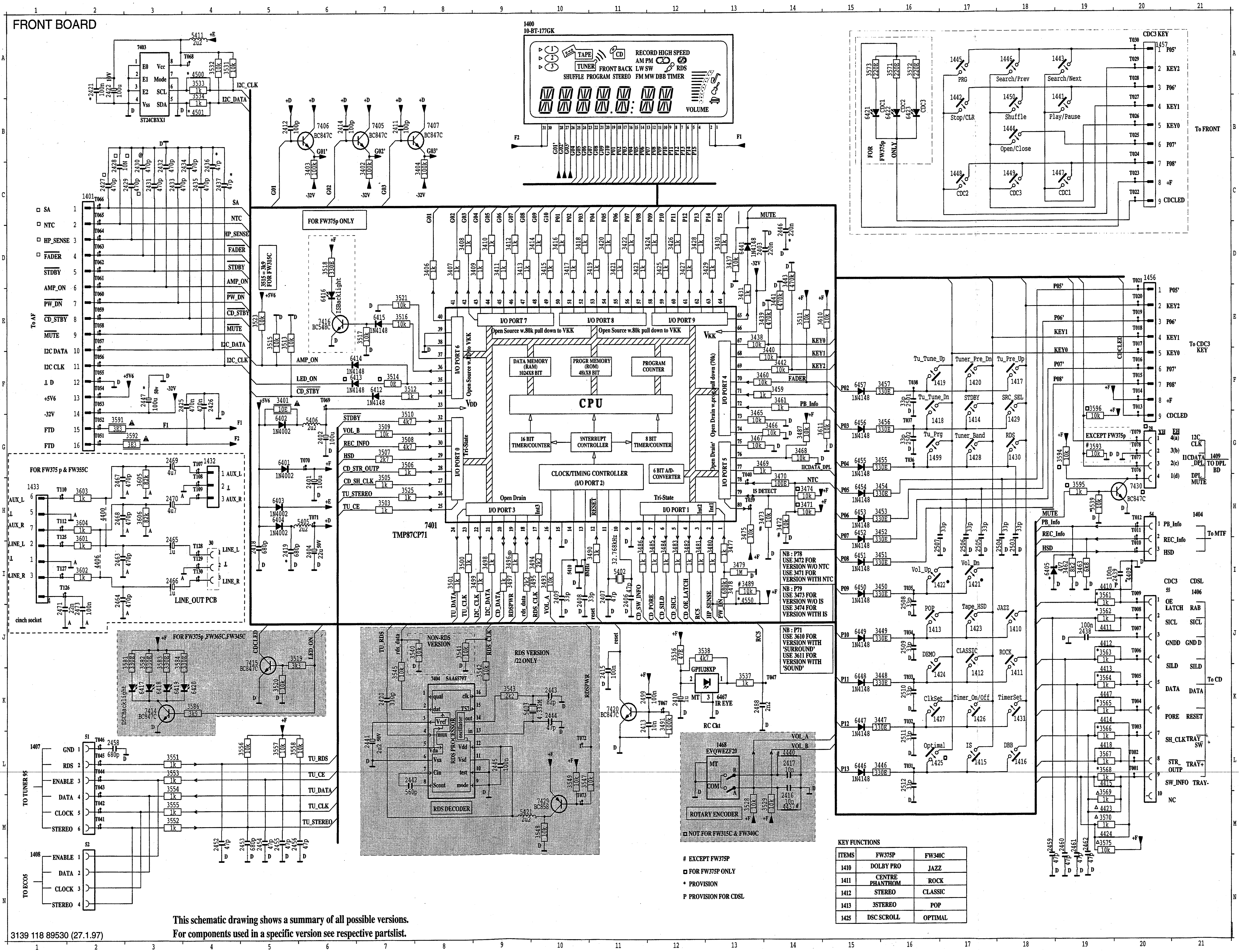
## COMPONENT LAYOUT DIAGRAM

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 28 D 3 | 1414 C 1 | 1426 B 5 | 1445 A 1 | 2404 B 2 | 3592 B 2 | 6404 B 2 | 6422 A 6 | 6455 B 3 | 9407 B 1 | 9420 C 3 | 9432 C 1 | 9445 C 2 | 9459 D 5 | 9472 A 5 | 9485 B 6 | 9501 B 7 | 9514 B 5 | 9528 C 2 |
| 30 D 1 | 1415 D 4 | 1427 B 5 | 1446 A 2 | 2410 C 4 | 3610 B 5 | 6405 D 3 | 6423 A 7 | 6456 B 3 | 9408 C 1 | 9421 B 1 | 9433 C 1 | 9446 C 4 | 9460 D 5 | 9473 A 6 | 9487 B 6 | 9502 C 6 | 9516 C 7 | 9530 D 5 |
| 51 C 1 | 1416 D 5 | 1428 B 1 | 1447 A 6 | 2422 C 3 | 5402 C 4 | 6412 C 3 | 6441 B 4 | 6457 B 3 | 9410 B 2 | 9422 B 1 | 9434 C 1 | 9447 C 3 | 9461 B 5 | 9474 B 5 | 9488 B 6 | 9503 C 6 | 9517 C 7 | 9531 D 6 |
| 52 C 1 | 1417 C 3 | 1429 D 2 | 1448 A 6 | 2425 A 1 | 5403 C 5 | 6413 C 2 | 6446 B 4 | 6467 C 4 | 9411 B 2 | 9423 B 2 | 9435 C 2 | 9448 C 3 | 9462 B 5 | 9475 B 5 | 9489 B 6 | 9504 C 6 | 9518 C 5 | 9532 D 6 |
| 54 C 2 | 1418 C 2 | 1430 B 2 | 1449 A 7 | 2426 B 5 | 5405 B 2 | 6414 B 2 | 6447 B 4 | 7403 C 3 | 9412 B 2 | 9424 B 1 | 9436 C 1 | 9451 C 3 | 9463 C 6 | 9477 B 5 | 9490 B 6 | 9506 B 6 | 9519 C 7 | 9533 D 6 |
| 55 B 7 | 1419 C 2 | 1431 B 5 | 1450 A 2 | 2441 C 5 | 5406 C 3 | 6415 C 3 | 6448 B 4 | 9400 C 4 | 9413 B 2 | 9425 C 3 | 9437 C 2 | 9452 C 4 | 9464 B 5 | 9478 B 6 | 9491 B 6 | 9507 C 6 | 9521 C 6 | 9534 D 4 |
| 1400 A 3 | 1420 C 3 | 1432 D 3 | 1456 A 1 | 2464 D 3 | 5410 C 4 | 6416 D 4 | 6449 B 4 | 9401 A 2 | 9414 B 3 | 9426 B 2 | 9438 C 2 | 9453 C 4 | 9465 B 5 | 9479 B 6 | 9494 C 6 | 9508 C 7 | 9522 C 6 | 9535 C 7 |
| 1401 D 5 | 1421 B 7 | 1433 D 2 | 1457 A 1 | 2465 D 3 | 5411 C 3 | 6417 C 6 | 6450 A 4 | 9402 A 3 | 9415 B 3 | 9427 B 2 | 9439 C 2 | 9454 D 4 | 9466 B 5 | 9480 B 6 | 9495 C 6 | 9509 C 7 | 9523 C 6 | ---- |
| 1410 C 6 | 1422 A 7 | 1441 A 3 | 1468 B 7 | 2467 D 1 | 5421 C 5 | 6418 C 6 | 6451 A 3 | 9403 B 3 | 9416 B 3 | 9428 B 2 | 9441 C 2 | 9455 C 4 | 9467 B 5 | 9481 B 6 | 9496 C 6 | 9510 D 6 | 9524 C 6 | |
| 1411 C 7 | 1423 D 6 | 1442 A 1 | 1499 B 1 | 2468 D 1 | 6401 D 4 | 6419 C 7 | 6452 B 3 | 9404 B 1 | 9417 B 3 | 9429 C 2 | 9442 C 2 | 9456 C 5 | 9468 B 5 | 9482 B 6 | 9497 C 6 | 9511 D 6 | 9525 C 6 | |
| 1412 C 7 | 1424 B 6 | 1443 A 3 | 2401 C 4 | 3401 B 2 | 6402 B 2 | 6420 C 7 | 6453 B 3 | 9405 B 1 | 9418 B 1 | 9430 C 2 | 9443 C 2 | 9457 C 5 | 9469 A 5 | 9483 B 6 | 9498 C 6 | 9512 C 3 | 9526 D 6 | |
| 1413 C 6 | 1425 D 5 | 1444 A 7 | 2402 B 3 | 3591 A 6 | 6403 D 4 | 6421 A 6 | 6454 B 3 | 9406 B 1 | 9419 C 2 | 9431 C 2 | 9444 C 2 | 9458 D 5 | 9471 A 5 | 9484 B 6 | 9499 C 6 | 9513 B 2 | 9527 D 6 | |


1
2
3
4
5
6
7
A
B
C
D
FRONT BOARD COMPONENT LAYOUT COMPONENTSIDE
fw375p/fr1panel-p1-961010-1 mpch
3139 113 33461
fw375p-fr1-p1-961010-1
3139 113 33461
STOP/CLEAR
PRG
SHUFFLE
PREV
PLAY/PAUSE
NEXT
CDC1
CDC2
CDC3
OPEN/CLOSE
VOL UP
VOL DW
BAND
PRG
TUNE DW
TUNE UP
PRE DW
PRE UP
TIMER SET
TIMER ON/OFF
CLK SET
DEMO
JAZZ
ROCK
POP
CLASSIC
DBB
OPTIMAL
IS
HSD
POWER ON
SOURCE
EH(1)
XH(1)/EH(a)
flow direction
3139 113 33461
fw375p-fr1-p1-961010-1

This assembly drawing shows a summary of all possible versions.
For components used in a specific version see schematic diagram and respective partslist.

# FRONT BOARD


1400
10-BT-177GK
RECORD HIGH SPEED
TAPE
CD
TUNER
AM PM
LW SW
FRONT BACK
RDS
SHUFFLE PROGRAM STEREO
FM MW DBB TIMER
VOLUME
F1
F2
7403
ST24CBXXI
E0 Vcc
E1 Mode
E2 SCL
Vss SDA
I2C_CLK
I2C_DATA
7406 BC847C
7405 BC847C
7407 BC847C
G01' G02' G03'
1401
SA
NTC
HP_SENSE
FADER
STDBY
AMP_ON
PW_DN
CD_STBY
MUTE
I2C DATA
I2C CLK
+5V6
-32V
FTD
To AF
FOR FW375p ONLY
7416 BC548C
LSBacklight
3516 = 3k9 FOR FW315C
AMP_ON
LED_ON
LED_STBY
STDBY
VOL_B
REC INFO
HSD
CD_STR_OUTP
CD_SH_CLK
TU_STEREO
TU_CE
I/O PORT 7
I/O PORT 8
I/O PORT 9
Open Source w.80k pull down to VKK
I/O PORT 6
DATA MEMORY (RAM) 1024X8 BIT
PROGR MEMORY (ROM) 48kX8 BIT
PROGRAM COUNTER
CPU
16 BIT TIMER/COUNTER
INTERRUPT CONTROLLER
8 BIT TIMER/COUNTER
CLOCK/TIMING CONTROLLER (I/O PORT 2)
6 BIT A/D-CONVERTER
I/O PORT 0
I/O PORT 3
I/O PORT 1
I/O PORT 4
I/O PORT 5
Open Drain
Tri-State
VKK
VDD
RESET
7401
TMP87CP71
MUTE
KEY0
KEY1
KEY2
FADER
PB_Info
IICDATA_DPL
IS DETECT
NTC
TU_DATA
TU_CLK
I2C_CLK
I2C_DATA
CD_DATA
RDSPWR
rds_data
RDS_CLK
VOL_A
reset
32.768kHz
8MHz
CD_SW_INFO
CD_PORE
CD_SILD
CD_SICL
CD OE_LATCH
RC5
HP_SENSE
PW_DN
1433
AUX_L
AUX_R
LINE_L
LINE_R
FOR FW375 p & FW355C
1432
AUX_L
AUX_R
LINE_L
LINE_R
LINE_OUT PCB
cinch socket
FOR FW375p ,FW365C,FW345C
DSCBacklight
7415 BC847C
7414 BC847C
LED_ON
NON-RDS VERSION
RDS VERSION /22 ONLY
7404 SAA6579T
RDS PROCESSOR
RDS DECODER
RDSPWR
7429 BC858
7420 BC847C
GP1U28XP
IR EYE
RC Ckt
1468 EVQWEZF20
ROTARY ENCODER
VOL_A
VOL_B
1407
GND
RDS
ENABLE
DATA
CLOCK
STEREO
TO TUNER 95
TU_RDS
TU_CE
TU_DATA
TU_CLK
TU_STEREO
1408
ENABLE
DATA
CLOCK
STEREO
TO ECO5
CDC3 KEY
1457
P05'
KEY2
P06'
KEY1
KEY0
P07'
P08'
+F
CDCLED
To FRONT
PRG
Search/Prev
Search/Next
Stop/CLR
Shuffle
Play/Pause
Open/Close
CDC2
CDC3
CDC1
FOR FW375p ONLY
1456
To CDC3 KEY
Tu_Tune_Up
Tuner_Pre_Dn
Tu_Pre_Up
Tu_Tune_Dn
STDBY
SRC_SEL
Tu_Prg
Tuner_Band
RDS
Vol_Up
Vol_Dn
POP
Tape_HSD
JAZZ
DEMO
CLASSIC
ROCK
ClkSet
Timer_On/Off
TimerSet
Optimal
IS
DBB
EXCEPT FW375p
7430 BC847C
I2C CLK
IICDATA_DPL
DPL MUTE
1409 TO DPL BD
1404
PB_Info
REC_Info
HSD
To MTF
CDC3
CDSL
1406
OE LATCH
RAB
SICL
GNDD
SILD
DATA
PORE
RESET
SH_CLK
TRAY_SW
STR_OUTP
TRAY+
SW_INFO
TRAY-
NC
To CD

NB : P78
USE 3472 FOR VERSION W/O NTC
USE 3471 FOR VERSION WITH NTC

NB : P79
USE 3473 FOR VERSION W/O IS
USE 3474 FOR VERSION WITH IS

NB : P71
USE 3610 FOR VERSION WITH 'SURROUND'
USE 3611 FOR VERSION WITH 'SOUND'

□ NOT FOR FW315C & FW340C

# EXCEPT FW375P
□ FOR FW375P ONLY
* PROVISION
P PROVISION FOR CDSL

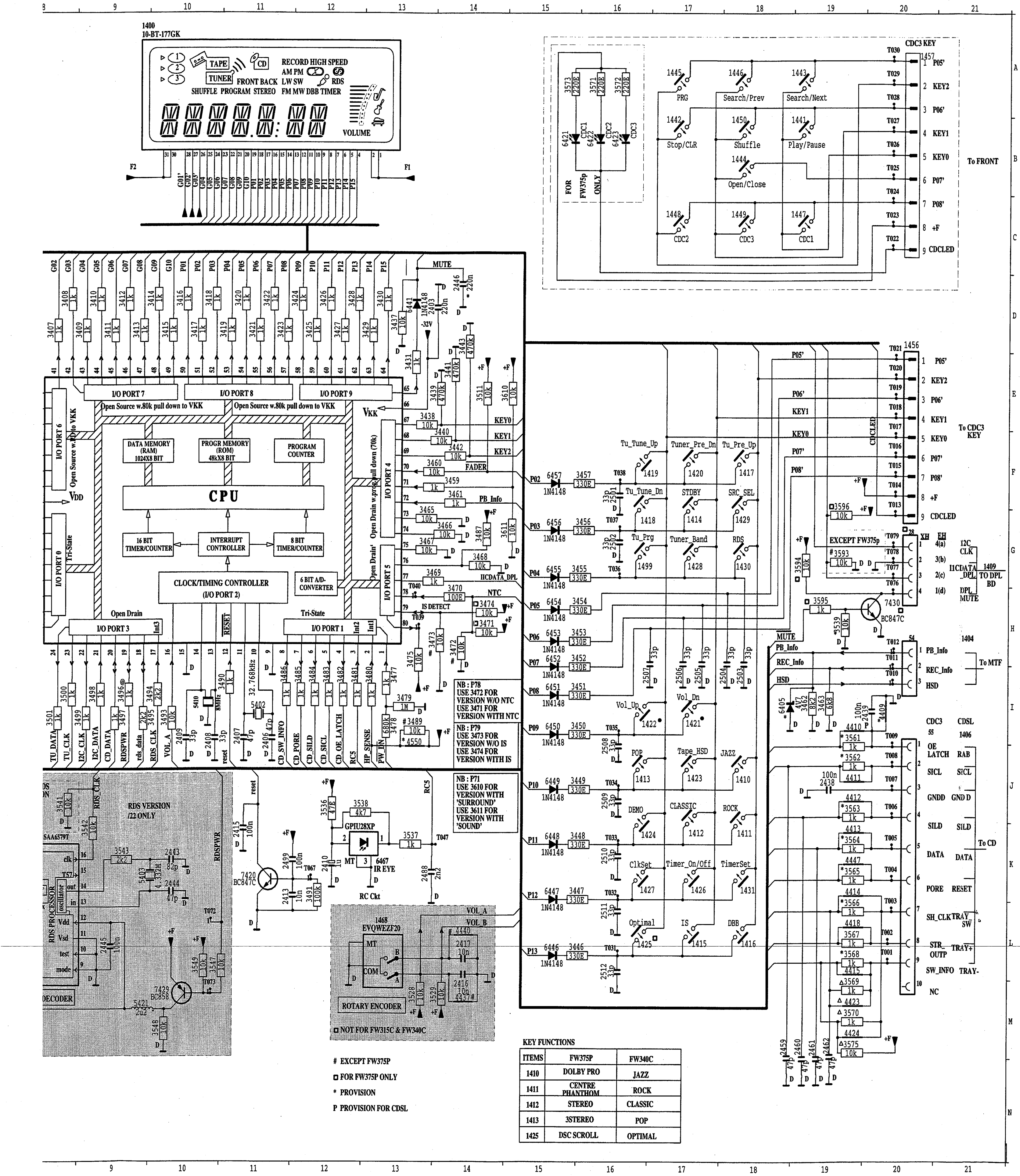
KEY FUNCTIONS

| ITEMS | FW375P | FW340C |
|---|---|---|
| 1410 | DOLBY PRO | JAZZ |
| 1411 | CENTRE PHANTHOM | ROCK |
| 1412 | STEREO | CLASSIC |
| 1413 | 3STEREO | POP |
| 1425 | DSC SCROLL | OPTIMAL |

This schematic drawing shows a summary of all possible versions.
For components used in a specific version see respective partslist.

3139 118 89530 (27.1.97)

| | | | | |
|---|---|---|---|---|
| 1400 | A 9 | 3446 | K15 | 5411 |
| 1401 | C 2 | 3447 | J15 | 5421 |
| 1410 | I17 | 3448 | J15 | 55 |
| 1411 | J17 | 3449 | I15 | 6401 |
| 1412 | J16 | 3450 | I15 | 6402 |
| 1413 | I16 | 3451 | H16 | 6403 |
| 1414 | F16 | 3452 | H16 | 6404 |
| 1415 | K17 | 3453 | H16 | 6405 |
| 1416 | K17 | 3454 | H16 | 6412 |
| 1417 | F17 | 3455 | G16 | 6413 |
| 1418 | G16 | 3456 | G16 | 6414 |
| 1419 | F16 | 3457 | F16 | 6415 |
| 1420 | F17 | 3459 | F14 | 6416 |
| 1421 | I16 | 3460 | F13 | 6417 |
| 1422 | I16 | 3461 | F14 | 6418 |
| 1423 | I16 | 3462 | I18 | 6419 |
| 1424 | J16 | 3463 | I18 | 6420 |
| 1425 | K16 | 3465 | G13 | 6421 |
| 1426 | J17 | 3466 | G14 | 6422 |
| 1427 | J16 | 3467 | G13 | 6423 |
| 1428 | G16 | 3468 | G14 | 6441 |
| 1429 | F17 | 3469 | G13 | 6446 |
| 1430 | G17 | 3470 | H14 | 6447 |
| 1431 | J17 | 3471 | H14 | 6448 |
| 1432 | G 4 | 3472 | H14 | 6449 |
| 1433 | H 1 | 3473 | H13 | 6450 |
| 1441 | B18 | 3474 | H14 | 6451 |
| 1442 | B17 | 3475 | H13 | 6452 |
| 1443 | A18 | 3477 | I13 | 6453 |
| 1444 | B18 | 3478 | I13 | 6454 |
| 1445 | A17 | 3479 | I13 | 6455 |
| 1446 | A18 | 3480 | I13 | 6456 |
| 1447 | C18 | 3481 | I12 | 6457 |
| 1448 | C17 | 3482 | I12 | 6467 |
| 1449 | C18 | 3483 | I12 | 7401 |
| 1450 | B18 | 3484 | I12 | 7403 |
| 1456 | D20 | 3485 | I12 | 7404 |
| 1457 | A20 | 3486 | I11 | 7405 |
| 1468 | L13 | 3487 | G14 | 7406 |
| 1499 | G16 | 3489 | I13 | 7407 |
| 2401 | H 6 | 3490 | I11 | 7414 |
| 2402 | G 6 | 3491 | K12 | 7415 |
| 2403 | D13 | 3493 | I10 | 7416 |
| 2404 | I 6 | 3494 | I10 | 7420 |
| 2406 | I11 | 3495 | I10 | 7429 |
| 2407 | I11 | 3496 | I 9 | 7430 |
| 2408 | I10 | 3497 | I 9 | |
| 2409 | I10 | 3498 | I 9 | |
| 2410 | K12 | 3499 | I 9 | |
| 2411 | B 7 | 3500 | I 8 | |
| 2412 | B 5 | 3501 | I 8 | |
| 2413 | K11 | 3503 | H 7 | |
| 2414 | B 6 | 3505 | H 7 | |
| 2415 | K11 | 3506 | G 7 | |
| 2416 | L14 | 3507 | G 7 | |
| 2417 | L14 | 3508 | G 7 | |
| 2418 | I 5 | 3509 | G 7 | |
| 2419 | I 5 | 3510 | G 7 | |
| 2420 | K 7 | 3511 | E14 | |
| 2421 | A 2 | 3512 | F 7 | |
| 2422 | A 2 | 3513 | E 5 | |
| 2425 | F 4 | 3514 | F 7 | |
| 2426 | F 4 | 3515 | E 5 | |
| 2427 | C 2 | 3516 | E 7 | |
| 2428 | C 2 | 3517 | E 7 | |
| 2429 | C 3 | 3518 | D 6 | |
| 2430 | C 3 | 3519 | J 5 | |
| 2431 | C 3 | 3520 | K 5 | |
| 2432 | C 3 | 3521 | E 7 | |
| 2433 | C 3 | 3523 | E 5 | |
| 2434 | C 4 | 3525 | H 7 | |
| 2435 | C 4 | 3528 | M13 | |
| 2436 | C 4 | 3529 | M14 | |
| 2437 | C 4 | 3531 | A 4 | |
| 2438 | J18 | 3532 | A 4 | |
| 2439 | I19 | 3533 | A 4 | |
| 2441 | L 7 | 3534 | A 4 | |
| 2442 | L 7 | 3536 | J12 | |
| 2443 | K10 | 3537 | K13 | |
| 2444 | K10 | 3538 | J12 | |
| 2445 | L 9 | 3539 | H19 | |
| 2446 | D14 | 3540 | J 7 | |
| 2447 | F 3 | 3541 | J 8 | |
| 2452 | M 4 | 3542 | K 9 | |
| 2453 | M 5 | 3543 | K 9 | |
| 2454 | M 5 | 3545 | K 7 | |
| 2455 | M 5 | 3547 | L10 | |
| 2456 | M 5 | 3548 | M10 | |
| 2458 | L 2 | 3549 | L10 | |
| 2459 | M18 | 3551 | L 3 | |
| 2460 | M18 | 3552 | M 3 | |
| 2461 | M18 | 3553 | L 3 | |
| 2462 | M19 | 3554 | L 3 | |
| 2463 | H 2 | 3555 | M 3 | |
| 2464 | H 3 | 3556 | L 5 | |
| 2465 | G 3 | 3557 | L 5 | |
| 2466 | H 2 | 3558 | L 5 | |
| 2467 | I 3 | 3561 | I19 | |
| 2468 | I 3 | 3562 | J19 | |
| 2469 | I 2 | 3563 | J19 | |
| 2470 | I 2 | 3564 | K19 | |
| 2471 | J 1 | 3565 | K19 | |
| 2473 | J 2 | 3566 | L19 | |
| 2488 | K13 | 3567 | L19 | |
| 2499 | K11 | 3568 | L19 | |
| 2501 | F16 | 3569 | M19 | |
| 2502 | G16 | 3570 | M19 | |
| 2503 | G17 | 3571 | A16 | |
| 2504 | H17 | 3572 | A16 | |
| 2505 | H17 | 3573 | A15 | |
| 2506 | H16 | 3575 | M19 | |
| 2507 | H16 | 3581 | J 3 | |
| 2508 | I16 | 3582 | J 3 | |
| 2509 | J16 | 3583 | J 3 | |
| 2510 | J16 | 3584 | J 3 | |
| 2511 | K16 | 3586 | K 4 | |
| 2512 | K16 | 3591 | G 2 | |
| 28 | G20 | 3592 | G 3 | |
| 30 | I 4 | 3593 | G19 | |
| 3401 | F 5 | 3594 | G18 | |
| 3402 | C 7 | 3595 | H18 | |
| 3403 | C 6 | 3596 | F19 | |
| 3404 | C 8 | 3600 | I 2 | |
| 3406 | D 8 | 3601 | H 2 | |
| 3407 | D 8 | 3602 | H 2 | |
| 3408 | D 8 | 3603 | H 2 | |
| 3409 | D 9 | 3604 | H 3 | |
| 3410 | D 9 | 3605 | H 3 | |
| 3411 | D 9 | 3610 | E14 | |
| 3412 | D 9 | 3611 | G14 | |
| 3413 | D 9 | 4400 | H 2 | |
| 3414 | D10 | 4406 | I 2 | |
| 3415 | D10 | 4409 | I19 | |
| 3416 | D10 | 4410 | I19 | |
| 3417 | D10 | 4411 | J19 | |
| 3418 | D10 | 4412 | J19 | |
| 3419 | D11 | 4413 | K19 | |
| 3420 | D11 | 4414 | K19 | |
| 3421 | D11 | 4415 | L19 | |
| 3422 | D11 | 4418 | L19 | |
| 3423 | D11 | 4423 | M19 | |
| 3424 | D12 | 4424 | M19 | |
| 3425 | D12 | 4437 | M14 | |
| 3426 | D12 | 4440 | L14 | |
| 3427 | D12 | 4447 | K19 | |
| 3428 | D12 | 4500 | A 4 | |
| 3429 | D13 | 4501 | B 4 | |
| 3430 | D13 | 4550 | J13 | |
| 3431 | E13 | 51 | L 2 | |
| 3437 | D13 | 52 | M 2 | |
| 3438 | E13 | 54 | H20 | |
| 3439 | E13 | 5402 | I11 | |
| 3440 | F14 | 5403 | K 9 | |
| 3441 | E14 | 5405 | H 6 | |
| 3442 | F14 | 5406 | G 6 | |
| 3443 | D14 | 5410 | I10 | |


1400
10-BT-177GK
TAPE
TUNER
CD
RECORD HIGH SPEED
AM PM
FRONT BACK LW SW
RDS
SHUFFLE PROGRAM STEREO FM MW DBB TIMER
VOLUME
F2
F1
CPU
DATA MEMORY (RAM) 1024X8 BIT
PROGR MEMORY (ROM) 48kX8 BIT
PROGRAM COUNTER
16 BIT TIMER/COUNTER
INTERRUPT CONTROLLER
8 BIT TIMER/COUNTER
CLOCK/TIMING CONTROLLER (I/O PORT 2)
6 BIT A/D-CONVERTER
I/O PORT 7
I/O PORT 8
I/O PORT 9
I/O PORT 6
I/O PORT 4
I/O PORT 5
I/O PORT 3
I/O PORT 1
I/O PORT 0
Open Source w.80k pull down to VKK
Open Drain w.prog.pull down (70k)
Open Drain
Tri-State
VKK
VDD
MUTE
KEY0
KEY1
KEY2
FADER
PB_Info
IICDATA_DPL
NTC
IS DETECT
TU_DATA
TU_CLK
I2C_CLK
I2C_DATA
CD_DATA
RDSPWR
rds_data
RDS_CLK
VOL_A
reset
CD_SW_INFO
CD_PORE
CD_SILD
CD_SICL
CD_OE_LATCH
RCS
HP_SENSE
PW_DN
CDC3 KEY
To FRONT
PRG
Search/Prev
Search/Next
Stop/CLR
Shuffle
Play/Pause
Open/Close
CDC2
CDC3
CDC1
FOR FW375p ONLY
Tu_Tune_Up
Tuner_Pre_Dn
Tu_Pre_Up
Tu_Tune_Dn
STDBY
SRC_SEL
Tu_Prg
Tuner_Band
RDS
Vol_Up
Vol_Dn
POP
Tape_HSD
JAZZ
DEMO
CLASSIC
ROCK
ClkSet
Timer_On/Off
TimerSet
Optimal
IS
DBB
To CDC3 KEY
CDCLED
EXCEPT FW375p
I2C CLK
IICDATA
DPL MUTE
1409 TO DPL BD
BC847C
PB_Info
REC_Info
HSD
1404
To MTF
CDC3
CDSL
OE LATCH
RAB
SICL
GNDD
SILD
DATA
PORE
RESET
SH_CLK
TRAY SW
STR_OUTP
TRAY+
SW_INFO
TRAY-
NC
To CD
NB : P78 USE 3472 FOR VERSION W/O NTC USE 3471 FOR VERSION WITH NTC
NB : P79 USE 3473 FOR VERSION W/O IS USE 3474 FOR VERSION WITH IS
NB : P71 USE 3610 FOR VERSION WITH 'SURROUND' USE 3611 FOR VERSION WITH 'SOUND'
RDS VERSION /22 ONLY
SAA6579T
RDS PROCESSOR
DECODER
GP1U28XP
IR EYE
RC Ckt
1468 EVQWEZF20
VOL_A
VOL_B
ROTARY ENCODER
NOT FOR FW315C & FW340C
# EXCEPT FW375P
FOR FW375P ONLY
* PROVISION
P PROVISION FOR CDSL

KEY FUNCTIONS

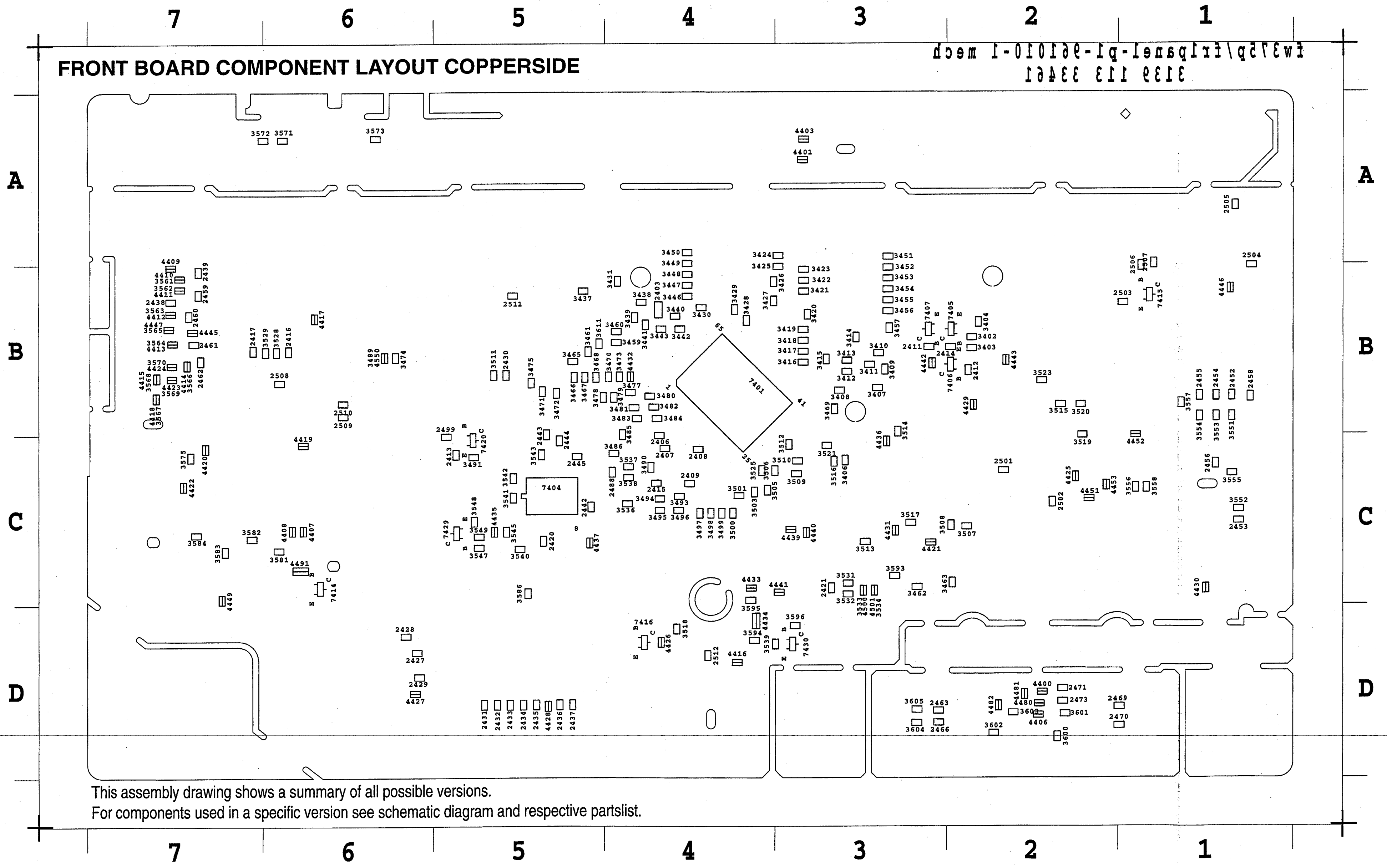
| ITEMS | FW375P | FW340C |
|---|---|---|
| 1410 | DOLBY PRO | JAZZ |
| 1411 | CENTRE PHANTHOM | ROCK |
| 1412 | STEREO | CLASSIC |
| 1413 | 3STEREO | POP |
| 1425 | DSC SCROLL | OPTIMAL |

| | | | | | |
|---|---|---|---|---|---|
| 1400 | A 9 | 3446 | K15 | 5411 | A 4 |
| 1401 | C 2 | 3447 | J15 | 5421 | M 9 |
| 1410 | I17 | 3448 | J15 | 55 | I20 |
| 1411 | J17 | 3449 | I15 | 6401 | G 5 |
| 1412 | J16 | 3450 | I15 | 6402 | G 5 |
| 1413 | I16 | 3451 | H16 | 6403 | H 5 |
| 1414 | F16 | 3452 | H16 | 6404 | H 5 |
| 1415 | K17 | 3453 | H16 | 6405 | I18 |
| 1416 | K17 | 3454 | H16 | 6412 | F 7 |
| 1417 | F17 | 3455 | G16 | 6413 | F 6 |
| 1418 | G16 | 3456 | G16 | 6414 | F 6 |
| 1419 | F16 | 3457 | F16 | 6415 | E 7 |
| 1420 | F17 | 3459 | F14 | 6416 | E 6 |
| 1421 | I16 | 3460 | F13 | 6417 | K 3 |
| 1422 | I16 | 3461 | F14 | 6418 | K 3 |
| 1423 | I16 | 3462 | I18 | 6419 | K 3 |
| 1424 | J16 | 3463 | I18 | 6420 | K 4 |
| 1425 | K16 | 3465 | G13 | 6421 | B15 |
| 1426 | J17 | 3466 | G14 | 6422 | B16 |
| 1427 | J16 | 3467 | G13 | 6423 | B16 |
| 1428 | G16 | 3468 | G14 | 6441 | D13 |
| 1429 | F17 | 3469 | G13 | 6446 | K15 |
| 1430 | G17 | 3470 | H14 | 6447 | K15 |
| 1431 | J17 | 3471 | H14 | 6448 | J15 |
| 1432 | G 4 | 3472 | H14 | 6449 | J15 |
| 1433 | H 1 | 3473 | H13 | 6450 | I15 |
| 1441 | B18 | 3474 | H14 | 6451 | I15 |
| 1442 | B17 | 3475 | H13 | 6452 | H15 |
| 1443 | A18 | 3477 | I13 | 6453 | H15 |
| 1444 | B18 | 3478 | I13 | 6454 | H15 |
| 1445 | A17 | 3479 | I13 | 6455 | G15 |
| 1446 | A18 | 3480 | I13 | 6456 | G15 |
| 1447 | C18 | 3481 | I12 | 6457 | F15 |
| 1448 | C17 | 3482 | I12 | 6467 | K13 |
| 1449 | C18 | 3483 | I12 | 7401 | H 8 |
| 1450 | B18 | 3484 | I12 | 7403 | A 3 |
| 1456 | D20 | 3485 | I12 | 7404 | K 8 |
| 1457 | A20 | 3486 | I11 | 7405 | B 7 |
| 1468 | L13 | 3487 | G14 | 7406 | B 6 |
| 1499 | G16 | 3489 | I13 | 7407 | B 8 |
| 2401 | H 6 | 3490 | I11 | 7414 | K 3 |
| 2402 | G 6 | 3491 | K12 | 7415 | J 5 |
| 2403 | D13 | 3493 | I10 | 7416 | E 6 |
| 2404 | I 6 | 3494 | I10 | 7420 | K11 |
| 2406 | I11 | 3495 | I10 | 7429 | M10 |
| 2407 | I11 | 3496 | I 9 | 7430 | H19 |
| 2408 | I10 | 3497 | I 9 | | |
| 2409 | I10 | 3498 | I 9 | | |
| 2410 | K12 | 3499 | I 9 | | |
| 2411 | B 7 | 3500 | I 8 | | |
| 2412 | B 5 | 3501 | I 8 | | |
| 2413 | K11 | 3503 | H 7 | | |
| 2414 | B 6 | 3505 | H 7 | | |
| 2415 | K11 | 3506 | G 7 | | |
| 2416 | L14 | 3507 | G 7 | | |
| 2417 | L14 | 3508 | G 7 | | |
| 2418 | I 5 | 3509 | G 7 | | |
| 2419 | I 5 | 3510 | G 7 | | |
| 2420 | K 7 | 3511 | E14 | | |
| 2421 | A 2 | 3512 | F 7 | | |
| 2422 | A 2 | 3513 | E 5 | | |
| 2425 | F 4 | 3514 | F 7 | | |
| 2426 | F 4 | 3515 | E 5 | | |
| 2427 | C 2 | 3516 | E 7 | | |
| 2428 | C 2 | 3517 | E 7 | | |
| 2429 | C 3 | 3518 | D 6 | | |
| 2430 | C 3 | 3519 | J 5 | | |
| 2431 | C 3 | 3520 | K 5 | | |
| 2432 | C 3 | 3521 | E 7 | | |
| 2433 | C 3 | 3523 | E 5 | | |
| 2434 | C 4 | 3525 | H 7 | | |
| 2435 | C 4 | 3528 | M13 | | |
| 2436 | C 4 | 3529 | M14 | | |
| 2437 | C 4 | 3531 | A 4 | | |
| 2438 | J18 | 3532 | A 4 | | |
| 2439 | I19 | 3533 | A 4 | | |
| 2441 | L 7 | 3534 | A 4 | | |
| 2442 | L 7 | 3536 | J12 | | |
| 2443 | K10 | 3537 | K13 | | |
| 2444 | K10 | 3538 | J12 | | |
| 2445 | L 9 | 3539 | H19 | | |
| 2446 | D14 | 3540 | J 7 | | |
| 2447 | F 3 | 3541 | J 8 | | |
| 2452 | M 4 | 3542 | K 9 | | |
| 2453 | M 5 | 3543 | K 9 | | |
| 2454 | M 5 | 3545 | K 7 | | |
| 2455 | M 5 | 3547 | L10 | | |
| 2456 | M 5 | 3548 | M10 | | |
| 2458 | L 2 | 3549 | L10 | | |
| 2459 | M18 | 3551 | L 3 | | |
| 2460 | M18 | 3552 | M 3 | | |
| 2461 | M18 | 3553 | L 3 | | |
| 2462 | M19 | 3554 | L 3 | | |
| 2463 | H 2 | 3555 | M 3 | | |
| 2464 | H 3 | 3556 | L 5 | | |
| 2465 | G 3 | 3557 | L 5 | | |
| 2466 | H 2 | 3558 | L 5 | | |
| 2467 | I 3 | 3561 | I19 | | |
| 2468 | I 3 | 3562 | J19 | | |
| 2469 | I 2 | 3563 | J19 | | |
| 2470 | I 2 | 3564 | K19 | | |
| 2471 | J 1 | 3565 | K19 | | |
| 2473 | J 2 | 3566 | L19 | | |
| 2488 | K13 | 3567 | L19 | | |
| 2499 | K11 | 3568 | L19 | | |
| 2501 | F16 | 3569 | M19 | | |
| 2502 | G16 | 3570 | M19 | | |
| 2503 | G17 | 3571 | A16 | | |
| 2504 | H17 | 3572 | A16 | | |
| 2505 | H17 | 3573 | A15 | | |
| 2506 | H16 | 3575 | M19 | | |
| 2507 | H16 | 3581 | J 3 | | |
| 2508 | I16 | 3582 | J 3 | | |
| 2509 | J16 | 3583 | J 3 | | |
| 2510 | J16 | 3584 | J 3 | | |
| 2511 | K16 | 3586 | K 4 | | |
| 2512 | K16 | 3591 | G 2 | | |
| 28 | G20 | 3592 | G 3 | | |
| 30 | I 4 | 3593 | G19 | | |
| 3401 | F 5 | 3594 | G18 | | |
| 3402 | C 7 | 3595 | H18 | | |
| 3403 | C 6 | 3596 | F19 | | |
| 3404 | C 8 | 3600 | I 2 | | |
| 3406 | D 8 | 3601 | H 2 | | |
| 3407 | D 8 | 3602 | H 2 | | |
| 3408 | D 8 | 3603 | H 2 | | |
| 3409 | D 9 | 3604 | H 3 | | |
| 3410 | D 9 | 3605 | H 3 | | |
| 3411 | D 9 | 3610 | E14 | | |
| 3412 | D 9 | 3611 | G14 | | |
| 3413 | D 9 | 4400 | H 2 | | |
| 3414 | D10 | 4406 | I 2 | | |
| 3415 | D10 | 4409 | I19 | | |
| 3416 | D10 | 4410 | I19 | | |
| 3417 | D10 | 4411 | J19 | | |
| 3418 | D10 | 4412 | J19 | | |
| 3419 | D11 | 4413 | K19 | | |
| 3420 | D11 | 4414 | K19 | | |
| 3421 | D11 | 4415 | L19 | | |
| 3422 | D11 | 4418 | L19 | | |
| 3423 | D11 | 4423 | M19 | | |
| 3424 | D12 | 4424 | M19 | | |
| 3425 | D12 | 4437 | M14 | | |
| 3426 | D12 | 4440 | L14 | | |
| 3427 | D12 | 4447 | K19 | | |
| 3428 | D12 | 4500 | A 4 | | |
| 3429 | D13 | 4501 | B 4 | | |
| 3430 | D13 | 4550 | J13 | | |
| 3431 | E13 | 51 | L 2 | | |
| 3437 | D13 | 52 | M 2 | | |
| 3438 | E13 | 54 | H20 | | |
| 3439 | E13 | 5402 | I11 | | |
| 3440 | F14 | 5403 | K 9 | | |
| 3441 | E14 | 5405 | H 6 | | |
| 3442 | F14 | 5406 | G 6 | | |
| 3443 | D14 | 5410 | I10 | | |

| | |
|---|---|
| +5V6 | F2,E5,F5 |
| +D | B5-8,I5 |
| +E | A4,H6 |
| +F | D6,G6,L5,E14,H14,I13<br>J14,J12,K11,M13,L10<br>F19,M20,C21,F21 |
| -32V | G2,C8,E13 |
| _DPL | G21 |
| 12C_CLK | A4 |
| 12C_DATA | B4 |
| AMP_ON | E2,E4 |
| AUX_L | H1,G4 |
| AUX_R | H1,H4 |
| CD_STBY | E2,E4 |
| CDLED | C21,G21 |
| DATA | K21 |
| DPL_MUTE | H21 |
| F1 | G2,B13 |
| F2 | G2,B9 |
| FADER | D2,D4 |
| GND D | J21 |
| HP_SENSE | D2,D4 |
| HSD | I21 |
| I1CDATA | G21 |
| I2C CLK | F2,F4,G21 |
| I2C DATA | F2,F4 |
| KEY0 | B21,F21 |
| KEY1 | B21,E21 |
| KEY2 | A21,E21 |
| LINE_L | I1,I4 |
| LINE_R | I1,I4 |
| MUTE | E2,E4 |
| NC | M21 |
| NTC | D2,D4 |
| OE LATCH | J21 |
| P05' | A21,E21 |
| P06' | A21,E21 |
| P07' | B21,F21 |
| P08' | C21,F21 |
| PB_Info | H21 |
| PORE | K21 |
| PW_DN | E2,E4 |
| RAB | J21 |
| REC_Info | I21 |
| RESET | K21 |
| SA | C2,C4 |
| SH_CLK | L21 |
| SILD | J21 |
| STDBY | D2,D4 |
| STR_OUTP | L21 |
| TRAY+ | L21 |
| TRAY- | L21 |
| TRAY_SW | L2 |

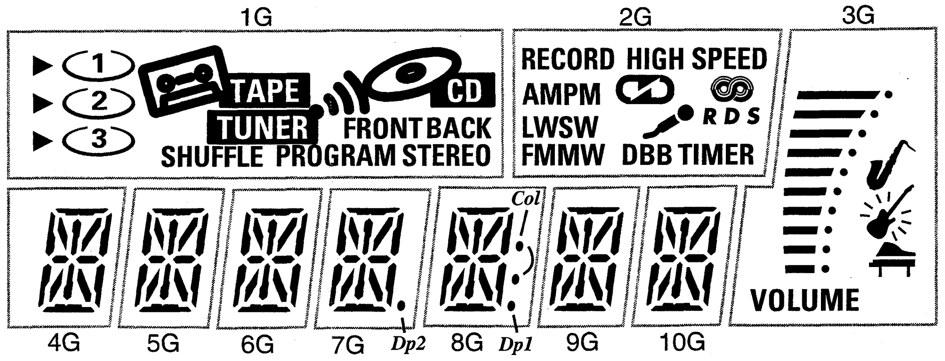
| | | |
|---|---|---|
| 2403 | B | 4 |
| 2406 | C | 4 |
| 2407 | C | 4 |
| 2408 | C | 4 |
| 2409 | C | 4 |
| 2411 | B | 3 |
| 2412 | B | 2 |
| 2413 | C | 5 |
| 2414 | B | 2 |
| 2415 | C | 4 |
| 2416 | B | 6 |
| 2417 | B | 7 |
| 2420 | C | 5 |
| 2421 | C | 3 |
| 2427 | D | 6 |
| 2428 | D | 6 |
| 2429 | D | 6 |
| 2430 | B | 5 |
| 2431 | D | 5 |
| 2432 | D | 5 |
| 2433 | D | 5 |
| 2434 | D | 5 |
| 2435 | D | 5 |
| 2436 | D | 5 |
| 2437 | D | 5 |
| 2438 | B | 7 |
| 2439 | B | 7 |
| 2442 | C | 5 |
| 2443 | C | 5 |
| 2444 | C | 5 |
| 2445 | C | 5 |
| 2452 | B | 1 |
| 2453 | C | 1 |
| 2454 | B | 1 |
| 2455 | B | 1 |
| 2456 | C | 1 |
| 2458 | B | 1 |
| 2459 | B | 7 |
| 2460 | B | 7 |
| 2461 | B | 7 |
| 2462 | B | 7 |
| 2463 | D | 3 |
| 2466 | D | 3 |
| 2469 | D | 1 |
| 2470 | D | 1 |
| 2471 | D | 2 |
| 2473 | D | 2 |
| 2488 | C | 4 |
| 2499 | C | 5 |
| 2501 | C | 2 |
| 2502 | C | 2 |
| 2503 | B | 1 |
| 2504 | B | 1 |
| 2505 | A | 1 |
| 2506 | B | 1 |
| 2507 | A | 1 |
| 2508 | B | 6 |
| 2509 | B | 6 |
| 2510 | B | 6 |
| 2511 | B | 5 |
| 2512 | D | 4 |
| 3402 | B | 2 |
| 3403 | B | 2 |
| 3404 | B | 2 |
| 3406 | C | 3 |
| 3407 | B | 3 |
| 3408 | B | 3 |
| 3409 | B | 3 |
| 3410 | B | 3 |
| 3411 | B | 3 |
| 3412 | B | 3 |
| 3413 | B | 3 |
| 3414 | B | 3 |
| 3415 | B | 3 |
| 3416 | B | 3 |
| 3417 | B | 3 |
| 3418 | B | 3 |
| 3419 | B | 3 |
| 3420 | B | 3 |
| 3421 | B | 3 |
| 3422 | B | 3 |
| 3423 | B | 3 |
| 3424 | A | 3 |
| 3425 | B | 3 |
| 3426 | B | 4 |
| 3427 | B | 4 |
| 3428 | B | 4 |
| 3429 | B | 4 |
| 3430 | B | 4 |
| 3431 | B | 4 |
| 3437 | B | 5 |
| 3438 | B | 4 |
| 3439 | B | 4 |
| 3440 | B | 4 |
| 3441 | B | 4 |
| 3442 | B | 4 |
| 3443 | B | 4 |
| 3446 | B | 4 |
| 3447 | B | 4 |
| 3448 | B | 4 |
| 3449 | A | 4 |
| 3450 | A | 4 |
| 3451 | A | 3 |
| 3452 | B | 3 |
| 3453 | B | 3 |
| 3454 | B | 3 |
| 3455 | B | 3 |
| 3456 | B | 3 |
| 3457 | B | 3 |
| 3459 | B | 4 |
| 3460 | B | 4 |
| 3461 | B | 5 |
| 3462 | C | 3 |
| 3463 | C | 2 |
| 3465 | B | 5 |
| 3466 | B | 5 |
| 3467 | B | 5 |
| 3468 | B | 5 |
| 3469 | B | 3 |
| 3470 | B | 4 |
| 3471 | B | 5 |
| 3472 | B | 5 |
| 3473 | B | 4 |
| 3474 | B | 6 |
| 3475 | B | 5 |
| 3477 | B | 4 |
| 3478 | B | 5 |
| 3479 | B | 4 |
| 3480 | B | 4 |
| 3481 | B | 4 |
| 3482 | B | 4 |
| 3483 | B | 4 |
| 3484 | B | 4 |
| 3485 | C | 4 |
| 3486 | C | 4 |
| 3489 | B | 6 |
| 3490 | C | 4 |
| 3491 | C | 5 |
| 3493 | C | 4 |
| 3494 | C | 4 |
| 3495 | C | 4 |
| 3496 | C | 4 |
| 3497 | C | 4 |
| 3498 | C | 4 |
| 3499 | C | 4 |
| 3500 | C | 4 |
| 3501 | C | 4 |
| 3503 | C | 4 |
| 3505 | C | 4 |
| 3506 | C | 3 |
| 3507 | C | 2 |
| 3508 | C | 2 |
| 3509 | C | 3 |
| 3510 | C | 3 |
| 3511 | B | 5 |
| 3512 | C | 3 |
| 3513 | C | 3 |
| 3514 | B | 3 |
| 3515 | B | 2 |
| 3516 | C | 3 |
| 3517 | C | 3 |
| 3518 | D | 4 |
| 3519 | C | 2 |
| 3520 | B | 2 |
| 3521 | C | 3 |
| 3523 | B | 2 |
| 3525 | C | 4 |
| 3528 | B | 6 |
| 3529 | B | 6 |
| 3531 | C | 3 |
| 3532 | C | 3 |
| 3533 | C | 3 |
| 3534 | C | 3 |
| 3536 | C | 4 |
| 3537 | C | 4 |
| 3538 | C | 4 |
| 3539 | D | 3 |
| 3540 | C | 5 |
| 3541 | C | 5 |
| 3542 | C | 5 |
| 3543 | C | 5 |
| 3545 | C | 5 |
| 3547 | C | 5 |
| 3548 | C | 5 |
| 3549 | C | 5 |
| 3551 | B | 1 |
| 3552 | C | 1 |
| 3553 | B | 1 |
| 3554 | B | 1 |
| 3555 | C | 1 |
| 3556 | C | 1 |
| 3557 | B | 1 |
| 3558 | C | 1 |
| 3561 | B | 7 |
| 3562 | B | 7 |
| 3563 | B | 7 |
| 3564 | B | 7 |
| 3565 | B | 7 |
| 3566 | B | 7 |
| 3567 | B | 7 |
| 3568 | B | 7 |
| 3569 | B | 7 |
| 3570 | B | 7 |
| 3571 | A | 6 |
| 3572 | A | 6 |
| 3573 | A | 6 |
| 3575 | C | 7 |
| 3581 | C | 6 |
| 3582 | C | 7 |
| 3583 | C | 7 |
| 3584 | C | 7 |
| 3586 | C | 5 |
| 3593 | C | 3 |
| 3594 | D | 4 |
| 3595 | C | 4 |
| 3596 | D | 3 |
| 3600 | D | 2 |
| 3601 | D | 2 |
| 3602 | D | 2 |
| 3603 | D | 2 |
| 3604 | D | 3 |
| 3605 | D | 3 |
| 3611 | B | 5 |
| 4400 | D | 2 |
| 4401 | A | 3 |
| 4403 | A | 3 |
| 4406 | D | 2 |
| 4407 | C | 6 |
| 4408 | C | 6 |
| 4409 | B | 7 |
| 4410 | B | 7 |
| 4411 | B | 7 |
| 4412 | B | 7 |
| 4413 | B | 7 |
| 4414 | B | 7 |
| 4415 | B | 7 |
| 4416 | D | 4 |
| 4417 | B | 6 |
| 4418 | B | 7 |
| 4419 | C | 6 |
| 4420 | C | 7 |
| 4421 | C | 3 |
| 4422 | C | 7 |
| 4423 | B | 7 |
| 4424 | B | 7 |
| 4425 | C | 2 |
| 4426 | D | 4 |
| 4427 | D | 6 |
| 4428 | D | 5 |
| 4429 | B | 2 |
| 4430 | C | 1 |
| 4431 | C | 3 |
| 4432 | B | 4 |
| 4433 | C | 4 |
| 4434 | D | 4 |
| 4435 | C | 5 |
| 4436 | C | 3 |
| 4437 | C | 5 |
| 4439 | C | 3 |
| 4440 | C | 3 |
| 4441 | C | 3 |
| 4442 | B | 3 |
| 4443 | B | 2 |
| 4445 | B | 7 |
| 4446 | B | 1 |
| 4447 | B | 7 |
| 4449 | C | 7 |
| 4451 | C | 2 |
| 4452 | C | 1 |
| 4453 | C | 2 |
| 4480 | D | 2 |
| 4481 | D | 2 |
| 4482 | D | 2 |
| 4491 | C | 6 |
| 4500 | C | 3 |
| 4501 | C | 3 |
| 4550 | B | 6 |
| 7401 | B | 4 |
| 7404 | C | 5 |
| 7405 | B | 2 |
| 7406 | B | 2 |
| 7407 | B | 3 |
| 7414 | C | 6 |
| 7415 | B | 1 |
| 7416 | D | 4 |
| 7420 | C | 5 |
| 7429 | C | 5 |
| 7430 | D | 3 |

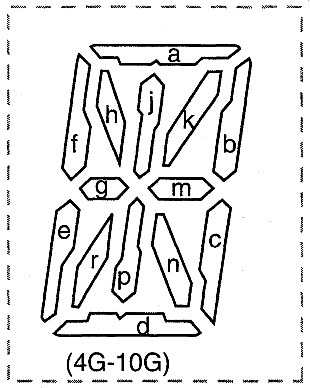
## FRONT BOARD COMPONENT LAYOUT COPPERSIDE

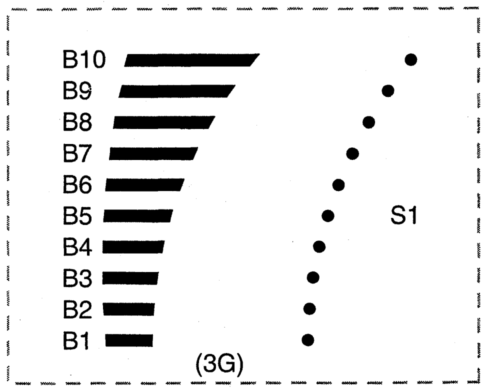


This assembly drawing shows a summary of all possible versions.
For components used in a specific version see schematic diagram and respective partslist.

## LCD PIN CONNECTION


1G
2G
3G
1
2
3
TAPE
TUNER
CD
FRONT BACK
SHUFFLE PROGRAM STEREO
RECORD HIGH SPEED
AMPM
LWSW
FMMW DBB TIMER
RDS
Col
VOLUME
4G
5G
6G
7G
Dp2
8G
Dp1
9G
10G


a
h
j
k
f
b
g
m
e
c
r
p
n
d
(4G-10G)


B10
B9
B8
B7
B6
B5
B4
B3
B2
B1
S1
(3G)

| | 1G | 2G | 3G | 4G | 5G | 6G | 7G | 8G | 9G | 10G |
|---|---|---|---|---|---|---|---|---|---|---|
| **P1** | ▶ (1) | RECORD | B1 | a | a | a | a | a | a | a |
| **P2** | ▶ (2) | HIGH SPEED | B2 | h | h | h | h | h | h | h |
| **P3** | ▶ (3) | AM | B3 | j , p | j , p | j , p | j , p | j , p | j , p | j , p |
| **P4** | 1 2 3 | PM | B4 | k | k | k | k | k | k | k |
| **P5** | ⬭ (1) | RDS | B5 | b | b | b | b | b | b | b |
| **P6** | ⬭ (2) | ⇄ | B6 | f | f | f | f | f | f | f |
| **P7** | ⬭ (3) | ( | B7 | m | m | m | m | m | m | m |
| **P8** | TAPE | ) | B8 | g | g | g | g | g | g | g |
| **P9** | TUNER | 🎤 | B9 | c | c | c | c | c | c | c |
| **P10** | CD | LW | B10 | e | e | e | e | e | e | e |
| **P11** | FRONT | SW | VOLUME | r | r | r | r | r | r | r |
| **P12** | BACK | FM | 🎷 | n | n | n | n | n | n | n |
| **P13** | SHUFFLE | MW | 🎸 | d | d | d | d | d | d | d |
| **P14** | PROGRAM | DBB | 🎸 | - | - | - | *Dp2* | *Dp1* | - | - |
| **P15** | STEREO | TIMER | 🎹 | - | - | - | - | *col* | - | - |

## MICROPROCESSOR PIN DESCRIPTION

| | | | | | |
|---|---|---|---|---|---|
| T001 | Cd Sw Info | T031 | P13 | T061 | Amp_On |
| T002 | Cd Str Output | T032 | P12 | T062 | Stdby |
| T003 | Cd Sh Clk | T033 | P11 | T063 | - |
| T004 | Cd Pore | T034 | P10 | T064 | Hp Sen |
| T005 | Cd Data | T035 | P035 | T065 | - |
| T006 | Cd Sild | T036 | P04 | T066 | *NTC* |
| T007 | GND D | T037 | P03 | T067 | - |
| T008 | Cd Sicl | T038 | P02 | T068 | E2prom Sup |
| T009 | Cd OE Latch | T039 | - | T069 | Vdd |
| T010 | HSD | T040 | *NTC* | T070 | +F |
| T011 | Rec_Info | T041 | Tu Stereo | T071 | +D |
| T012 | Pb_Info | T042 | Tu Clk | T072 | - |
| T013 | Cdcled | T043 | Tu Data | T073 | - |
| T014 | +F | T044 | Tu Enable | T074 | - |
| T015 | P08' | T045 | Tu RDS | T075 | - |
| T016 | P07' | T046 | Tu GND | T076 | Mute |
| T017 | KEY 0 | T047 | - | T077 | I2C Data |
| T018 | KEY 1 | T048 | - | T078 | GND |
| T019 | P06' | T049 | - | T079 | I2C Clk |
| T020 | KEY 2 | T050 | - | | |
| T021 | P05' | T051 | FTD (F2) | | |
| T022 | Cdcled | T052 | FTD (F1) | | |
| T023 | +F | T053 | -32V | | |
| T024 | P08' | T054 | +5V6 | | |
| T025 | P07' | T055 | +D | | |
| T026 | KEY 0 | T056 | I2C Clk | | |
| T027 | KEY 1 | T057 | I2C Data | | |
| T028 | P06' | T058 | Mute | | |
| T029 | KEY 2 | T059 | Cd_Stdby | | |
| T030 | P05' | T060 | Pw_Dn | | |

## *ELECTRICAL PARTSLIST - FRONT BOARD*

### MISCELLANEOUS

| | | |
|---|---|---|
| 1400 | 4822 135 00014 | Fluorescent Display |
| 1410 | 4822 276 13114 | Tact Switch |
| 1411 | 4822 276 13114 | Tact Switch |
| 1412 | 4822 276 13114 | Tact Switch |
| 1413 | 4822 276 13114 | Tact Switch |
| 1414 | 4822 276 13114 | Tact Switch |
| 1415 | 4822 276 13114 | Tact Switch |
| 1416 | 4822 276 13114 | Tact Switch |
| 1417 | 4822 276 13114 | Tact Switch |
| 1418 | 4822 276 13114 | Tact Switch |
| 1419 | 4822 276 13114 | Tact Switch |
| 1420 | 4822 276 13114 | Tact Switch |
| 1423 | 4822 276 13114 | Tact Switch |
| 1424 | 4822 276 13114 | Tact Switch |
| 1425 | 4822 276 13114 | Tact Switch |
| 1426 | 4822 276 13114 | Tact Switch |
| 1427 | 4822 276 13114 | Tact Switch |
| 1428 | 4822 276 13114 | Tact Switch |
| 1429 | 4822 276 13114 | Tact Switch |
| 1431 | 4822 276 13114 | Tact Switch |
| 1441 | 4822 276 13114 | Tact Switch |
| 1442 | 4822 276 13114 | Tact Switch |
| 1443 | 4822 276 13114 | Tact Switch |
| 1444 | 4822 276 13114 | Tact Switch |
| 1445 | 4822 276 13114 | Tact Switch |
| 1446 | 4822 276 13114 | Tact Switch |
| 1447 | 4822 276 13114 | Tact Switch |
| 1448 | 4822 276 13114 | Tact Switch |
| 1449 | 4822 276 13114 | Tact Switch |
| 1450 | 4822 276 13114 | Tact Switch |
| 1468 | 4822 101 90254 | Switch |
| 1499 | 4822 276 13114 | Tact Switch |

### CAPACITORS

| | | |
|---|---|---|
| 2401 | 4822 124 41584 | 100µF 20% 10V |
| 2402 | 4822 124 42446 | 100µF 20% 10V |
| 2403 | 4822 122 33496 | 100nF 10%X7R 63V |
| 2404 | 4822 124 41596 | 22µF 20% 50V |
| 2406 | 5322 122 32481 | 15pF 5% 50V |
| 2407 | 5322 122 32481 | 15pF 5% 50V |
| 2408 | 5322 122 32659 | 33pF 5% 50V |
| 2409 | 5322 122 33514 | 68pF 5% 50V |
| 2410 | 4822 124 40242 | 1µF 20% 63V |
| 2411 | 5322 122 32531 | 100pF 5% NP0 50V |
| 2412 | 5322 122 32531 | 100pF 5% NP0 50V |
| 2413 | 4822 122 33177 | 10nF 20% X7R 50V |
| 2414 | 5322 122 32531 | 100pF 5% NP0 50V |
| 2415 | 4822 126 13838 | 100nF Y5V 0805 50V P |
| 2416 | 4822 122 33177 | 10nF 20% X7R 50V |
| 2417 | 4822 122 33177 | 10nF 20% X7R 50V |
| 2422 | 4822 124 41584 | 100µF 20% 10V |
| 2425 | 4822 121 51252 | 470nF 5% 63V |
| 2426 | 4822 121 51252 | 470nF 5% 63V |
| 2428 | 4822 122 33177 | 10nF 20% X7R 50V |
| 2431 | 5322 122 34099 | 470pF 10% X7R 63V |
| 2432 | 5322 122 34099 | 470pF 10% X7R 63V |
| 2433 | 5322 122 34099 | 470pF 10% X7R 63V |
| 2434 | 5322 122 34099 | 470pF 10% X7R 63V |
| 2435 | 5322 122 34099 | 470pF 10% X7R 63V |
| 2436 | 5322 122 32452 | 47pF 5% NPO 63V |
| 2437 | 5322 122 32452 | 47pF 5% NPO 63V |
| 2438 | 4822 126 13838 | 100nF Y5V 0805 50V P |
| 2441 | 4822 124 41576 | 2.2µF 20% 50V |
| 2453 | 5322 122 32452 | 47pF 5% NP0 63V |
| 2454 | 5322 122 32452 | 47pF 5% NP0 63V |
| 2455 | 5322 122 32452 | 47pF 5% NP0 63V |
| 2456 | 5322 122 32452 | 47pF 5% NP0 63V |
| 2459 | 5322 122 32452 | 47pF 5% NP0 63V |
| 2460 | 5322 122 32452 | 47pF 5% NP0 63V |
| 2461 | 5322 122 32452 | 47pF 5% NP0 63V |
| 2462 | 5322 122 32452 | 47pF 5% NP0 63V |
| 2488 | 4822 122 33175 | 2,2nF 20% X7R 50V |
| 2499 | 4822 126 13838 | 100nF Y5V 0805 50V |
| 2501 | 5322 122 34099 | 470pF 5% NP0 63V |
| 2502 | 5322 122 34099 | 470pF 5% NP0 63V |
| 2503 | 5322 122 34099 | 470pF 5% NP0 63V |
| 2504 | 5322 122 34099 | 470pF 5% NP0 63V |
| 2505 | 5322 122 34099 | 470pF 5% NP0 63V |
| 2506 | 5322 122 34099 | 470pF 5% NP0 63V |
| 2507 | 5322 122 34099 | 470pF 5% NP0 63V |
| 2508 | 5322 122 34099 | 470pF 5% NP0 63V |
| 2509 | 5322 122 34099 | 470pF 5% NP0 63V |
| 2510 | 5322 122 34099 | 470pF 5% NP0 63V |
| 2511 | 5322 122 34099 | 470pF 5% NP0 63V |
| 2512 | 5322 122 34099 | 470pF 5% NP0 63V |

### RESISTORS

| | | |
|---|---|---|
| 3402 | 4822 051 20104 | 100K 5% 0,1W |
| 3403 | 4822 051 20104 | 100K 5% 0,1W |
| 3404 | 4822 051 20104 | 100K 5% 0,1W |
| 3406 | 4822 051 10102 | 1K 2% 0,25W |
| 3407 | 4822 051 10102 | 1K 2% 0,25W |
| 3408 | 4822 051 10102 | 1K 2% 0,25W |
| 3409 | 4822 051 10102 | 1K 2% 0,25W |
| 3410 | 4822 051 10102 | 1K 2% 0,25W |
| 3411 | 4822 051 10102 | 1K 2% 0,25W |
| 3412 | 4822 051 10102 | 1K 2% 0,25W |
| 3413 | 4822 051 10102 | 1K 2% 0,25W |
| 3414 | 4822 051 10102 | 1K 2% 0,25W |
| 3415 | 4822 051 10102 | 1K 2% 0,25W |
| 3416 | 4822 051 10102 | 1K 2% 0,25W |
| 3417 | 4822 051 10102 | 1K 2% 0,25W |
| 3418 | 4822 051 10102 | 1K 2% 0,25W |
| 3419 | 4822 051 10102 | 1K 2% 0,25W |
| 3420 | 4822 051 10102 | 1K 2% 0,25W |
| 3421 | 4822 051 10102 | 1K 2% 0,25W |
| 3422 | 4822 051 10102 | 1K 2% 0,25W |
| 3423 | 4822 051 10102 | 1K 2% 0,25W |
| 3424 | 4822 051 10102 | 1K 2% 0,25W |
| 3425 | 4822 051 10102 | 1K 2% 0,25W |

| | | |
|---|---|---|
| 3426 | 4822 051 10102 | 1K 2% 0,25W |
| 3427 | 4822 051 10102 | 1K 2% 0,25W |
| 3428 | 4822 051 10102 | 1K 2% 0,25W |
| 3429 | 4822 051 10102 | 1K 2% 0,25W |
| 3430 | 4822 051 10102 | 1K 2% 0,25W |
| 3431 | 4822 051 10102 | 1K 2% 0,25W |
| 3437 | 4822 117 10833 | 10K 10% 0,1W |
| 3438 | 4822 117 10833 | 10K 10% 0,1W |
| 3439 | 4822 051 20474 | 470K 5% 0,1W |
| 3440 | 4822 117 10833 | 10K 10% 0,1W |
| 3441 | 4822 051 20474 | 470K 5% 0,1W |
| 3442 | 4822 117 10833 | 10K 10% 0,1W |
| 3443 | 4822 051 20474 | 470K 5% 0,1W |
| 3446 | 4822 051 20331 | 330R 5% 0,1W |
| 3447 | 4822 051 20331 | 330R 5% 0,1W |
| 3448 | 4822 051 20331 | 330R 5% 0,1W |
| 3449 | 4822 051 20331 | 330R 5% 0,1W |
| 3450 | 4822 051 20331 | 330R 5% 0,1W |
| 3451 | 4822 051 20331 | 330R 5% 0,1W |
| 3452 | 4822 051 20331 | 330R 5% 0,1W |
| 3453 | 4822 051 20331 | 330R 5% 0,1W |
| 3454 | 4822 051 20331 | 330R 5% 0,1W |
| 3455 | 4822 051 20331 | 330R 5% 0,1W |
| 3456 | 4822 051 20331 | 330R 5% 0,1W |
| 3457 | 4822 051 20331 | 330R 5% 0,1W |
| 3459 | 4822 051 10102 | 1K 2% 0,25W |
| 3460 | 4822 117 10833 | 10K 10% 0,1W |
| 3461 | 4822 051 10102 | 1K 2% 0,25W |
| 3462 | 4822 051 20822 | 8K2 5% 0,1W |
| 3463 | 4822 051 20682 | 6K8 5% 0,1W |
| 3465 | 4822 117 10833 | 10K 10% 0,1W |
| 3466 | 4822 117 10833 | 10K 10% 0,1W |
| 3467 | 4822 117 10833 | 10K 10% 0,1W |
| 3468 | 4822 117 10833 | 10K 10% 0,1W |
| 3469 | 4822 051 10102 | 1K 2% 0,25W |
| 3470 | 4822 051 20101 | 100R 5% 0,1W |
| 3471 | 4822 117 10833 | 10k 1% 0.1W |
| 3473 | 4822 117 10833 | 10K 10% 0,1W -/37 |
| 3474 | 4822 117 10833 | 10k 10% 0,1W -/21 |
| 3475 | 4822 117 10833 | 10K 10% 0,1W |
| 3477 | 4822 051 10102 | 1K 2% 0,25W |
| 3478 | 4822 051 20684 | 680K 5% 0,1W |
| 3479 | 4822 051 20105 | 1M 5% 0,1W |
| 3480 | 4822 051 10102 | 1K 2% 0,25W |
| 3481 | 4822 051 10102 | 1K 2% 0,25W |
| 3482 | 4822 051 10102 | 1K 2% 0,25W |
| 3483 | 4822 051 10102 | 1K 2% 0,25W |
| 3484 | 4822 051 10102 | 1K 2% 0,25W |
| 3485 | 4822 051 10102 | 1K 2% 0,25W |
| 3486 | 4822 051 10102 | 1K 2% 0,25W |
| 3490 | 4822 051 10102 | 1K 2% 0,25W |
| 3491 | 4822 051 20104 | 100K 5% 0,1W |
| 3493 | 4822 117 10833 | 10K 10% 0,1W |
| 3494 | 4822 117 11449 | 2K2 1% 0,1W |
| 3495 | 4822 117 11449 | 2K2 1% 0,1W |
| 3497 | 4822 051 10102 | 1K 2% 0,25W |
| 3498 | 4822 051 10102 | 1K 2% 0,25W |
| 3499 | 4822 051 10102 | 1K 2% 0,25W |
| 3500 | 4822 051 10102 | 1K 2% 0,25W |
| 3501 | 4822 051 10102 | 1K 2% 0,25W |
| 3503 | 4822 051 10102 | 1K 2% 0,25W |
| 3505 | 4822 051 10102 | 1K 2% 0,25W |
| 3506 | 4822 051 10102 | 1K 2% 0,25W |
| 3507 | 4822 051 20272 | 2K7 5% 0,1W |
| 3508 | 4822 051 20472 | 4K7 5% 0,1W |
| 3509 | 4822 117 10833 | 10K 10% 0,1W |
| 3510 | 4822 051 10102 | 1K 2% 0,25W |
| 3511 | 4822 117 10833 | 10K 10% 0,1W |
| 3512 | 4822 051 10102 | 1K 2% 0,25W |
| 3513 | 4822 117 10833 | 10K 10% 0,1W |
| 3514 | 4822 051 20008 | Jumper |
| 3516 | 4822 117 10833 | 10K 10% 0,1W -/21 |
| 3517 | 4822 117 10833 | 10K 10% 0,1W -/21 |
| 3518 | 4822 051 20331 | 330R 5% 0,1W -/21 |
| 3519 | 4822 051 20332 | 3k3 5% 0,1W |
| 3520 | 4822 051 20332 | 3k3 5% 0,1W |
| 3521 | 4822 117 10833 | 10K 10% 0,1W |
| 3525 | 4822 051 10102 | 1K 2% 0,25W |
| 3528 | 4822 117 10833 | 10k 10% 0,1W |
| 3529 | 4822 117 10833 | 10k 10% 0,1W |
| 3531 | 4822 117 10833 | 10K 10% 0,1W |
| 3532 | 4822 117 10833 | 10K 10% 0,1W |
| 3533 | 4822 051 10102 | 1K 2% 0,25W |
| 3534 | 4822 051 10102 | 1K 2% 0,25W |
| 3536 | 4822 051 20479 | 47R 5% 0,1W |
| 3537 | 4822 051 10102 | 1K 2% 0,25W |
| 3538 | 4822 051 20472 | 4K7 5% 0,1W |
| 3540 | 4822 117 10833 | 10K 10% 0,1W |
| 3541 | 4822 117 10833 | 10K 10% 0,1W |
| 3552 | 4822 051 10102 | 1K 2% 0,25W |
| 3553 | 4822 051 10102 | 1K 2% 0,25W |
| 3554 | 4822 051 10102 | 1K 2% 0,25W |
| 3555 | 4822 051 10102 | 1K 2% 0,25W |
| 3556 | 4822 117 10833 | 10K 10% 0,1W |
| 3557 | 4822 117 10833 | 10K 10% 0,1W |
| 3558 | 4822 117 10833 | 10K 10% 0,1W |
| 3571 | 4822 051 20221 | 220R 5% 0,1W |
| 3572 | 4822 051 20221 | 220R 5% 0,1W |
| 3573 | 4822 051 20221 | 220R 5% 0,1W |
| 3581 | 4822 051 20331 | 330R 5% 0,1W |
| 3582 | 4822 051 20331 | 330R 5% 0,1W |
| 3583 | 4822 051 20331 | 330R 5% 0,1W |
| 3584 | 4822 051 20331 | 330R 5% 0,1W |
| 3586 | 4822 051 20392 | 3k9 5% 0,1W |
| 3591 | 4822 052 10338 | 3R3 5% 0,33W |
| 3592 | 4822 052 10338 | 3R3 5% 0,33W |
| 3593 | 4822 117 10833 | 10K 10% 0,1W |
| 3611 | 4822 117 10833 | 10K 10% 0,1W |

## ***ELECTRICAL PARTSLIST - FRONT BOARD***

### JUMPER

| | | |
|---|---|---|
| 4401 | 4822 051 20008 | JUMPER OR |
| 4403 | 4822 051 20008 | JUMPER OR |
| 4407 | 4822 051 20008 | JUMPER OR |
| 4408 | 4822 051 20008 | JUMPER OR |
| 4410 | 4822 051 20008 | JUMPER OR |
| 4411 | 4822 051 20008 | JUMPER OR |
| 4412 | 4822 051 20008 | JUMPER OR |
| 4413 | 4822 051 20008 | JUMPER OR |
| 4414 | 4822 051 20008 | JUMPER OR |
| 4415 | 4822 051 20008 | JUMPER OR |
| 4416 | 4822 051 20008 | JUMPER OR |
| 4417 | 4822 051 20008 | JUMPER OR |
| 4418 | 4822 051 20008 | JUMPER OR |
| 4419 | 4822 051 20008 | JUMPER OR |
| 4420 | 4822 051 20008 | JUMPER OR |
| 4421 | 4822 051 20008 | JUMPER OR |
| 4422 | 4822 051 20008 | JUMPER OR |
| 4425 | 4822 051 20008 | JUMPER OR |
| 4426 | 4822 051 20008 | JUMPER OR |
| 4427 | 4822 051 20008 | JUMPER OR |
| 4428 | 4822 051 20008 | JUMPER OR |
| 4429 | 4822 051 20008 | JUMPER OR |
| 4430 | 4822 051 20008 | JUMPER OR |
| 4431 | 4822 051 20008 | JUMPER OR |
| 4432 | 4822 051 20008 | JUMPER OR |
| 4433 | 4822 051 20008 | JUMPER OR |
| 4434 | 4822 051 10008 | JUMPER OR |
| 4435 | 4822 051 20008 | JUMPER OR |
| 4436 | 4822 051 20008 | JUMPER OR |
| 4439 | 4822 051 20008 | JUMPER OR |
| 4441 | 4822 051 20008 | JUMPER OR |
| 4442 | 4822 051 20008 | JUMPER OR |
| 4443 | 4822 051 20008 | JUMPER OR |
| 4445 | 4822 051 20008 | JUMPER OR |
| 4446 | 4822 051 20008 | JUMPER OR |
| 4447 | 4822 051 20008 | JUMPER OR |
| 4449 | 4822 051 20008 | JUMPER OR |
| 4451 | 4822 051 20008 | JUMPER OR |
| 4452 | 4822 051 20008 | JUMPER OR |
| 4453 | 4822 051 20008 | JUMPER OR |
| 4491 | 4822 051 20008 | JUMPER OR |

### COILS & INDUCTORS

| | | |
|---|---|---|
| 5402 | 4822 242 70938 | TA252E00 (32,768KHz) |
| 5405 | 4822 156 21721 | INDUCTOR 2,2µH 10% |
| 5406 | 4822 156 21721 | INDUCTOR 2,2µH 10% |
| 5410 | 4822 242 72066 | CERAMIC FILTER 8MHz |
| 5411 | 4822 156 21721 | INDUCTOR 2,2µH 10% |

### DIODES

| | | |
|---|---|---|
| 6401 | 5322 130 30684 | 1N4002 |
| 6402 | 5322 130 30684 | 1N4002 |
| 6403 | 5322 130 30684 | 1N4002 |
| 6404 | 5322 130 30684 | 1N4002 |
| 6405 | 4822 130 34174 | BZX79-B4V7 |
| 6412 | 4822 130 30621 | 1N4148 |
| 6413 | 4822 130 30621 | 1N4148 |
| 6414 | 4822 130 30621 | 1N4148 |
| 6415 | 4822 130 30621 | 1N4148 -/21 |
| 6416 | 4822 130 10791 | LED -/21 |
| 6417 | 4822 130 10791 | LED |
| 6418 | 4822 130 10791 | LED |
| 6419 | 4822 130 10791 | LED |
| 6420 | 4822 130 10791 | LED |
| 6421 | 4822 130 10791 | LED |
| 6422 | 4822 130 10791 | LED |
| 6423 | 4822 130 10791 | LED |
| 6441 | 4822 130 30621 | 1N4148 |
| 6446 | 4822 130 30621 | 1N4148 |
| 6447 | 4822 130 30621 | 1N4148 |
| 6448 | 4822 130 30621 | 1N4148 |
| 6449 | 4822 130 30621 | 1N4148 |
| 6450 | 4822 130 30621 | 1N4148 |
| 6451 | 4822 130 30621 | 1N4148 |
| 6452 | 4822 130 30621 | 1N4148 |
| 6453 | 4822 130 30621 | 1N4148 |
| 6454 | 4822 130 30621 | 1N4148 |
| 6455 | 4822 130 30621 | 1N4148 |
| 6456 | 4822 130 30621 | 1N4148 |
| 6457 | 4822 130 30621 | 1N4148 |
| 6467 | 4822 130 10165 | GP1U28XP |

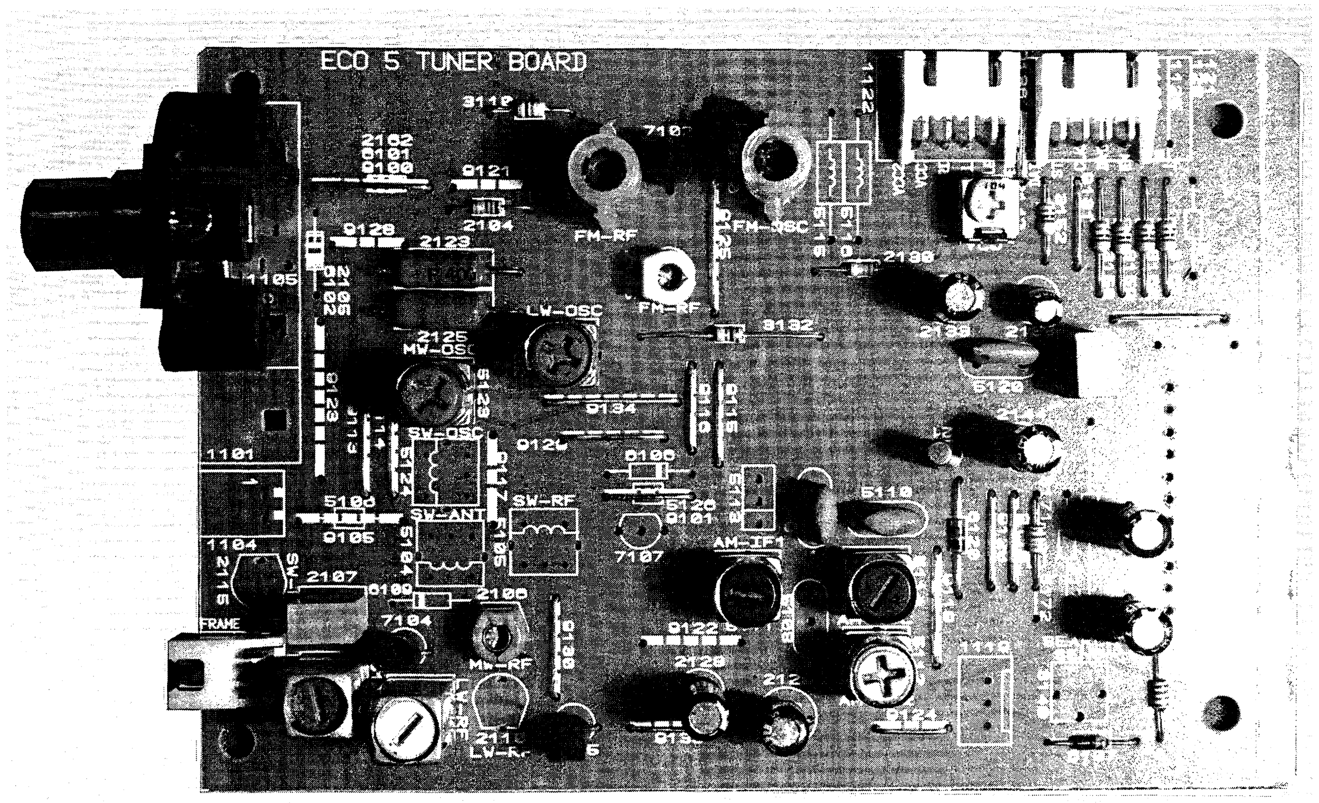
### INTERGRATED CIRCUITS

| | | |
|---|---|---|
| 7401 | 4822 209 15436 | TMP87CP71F-322S51471 |
| 7403 | 4822 209 31508 | ST24C01B6 |

### TRANSISTORS

| | | |
|---|---|---|
| 7405 | 5322 130 42755 | BC847C |
| 7406 | 5322 130 42755 | BC847C |
| 7407 | 5322 130 42755 | BC847C |
| 7414 | 5322 130 42755 | BC847C |
| 7415 | 5322 130 42755 | BC847C |
| 7416 | 5322 130 42755 | BC847C |
| 7420 | 5322 130 42755 | BC847C |

Note : Only the parts mentioned in this list are normal service spare parts.


ECO 5 TUNER BOARD
FM-RF
FM-OSC
LW-OSC
MW-OSC
SW-OSC
SW-RF
SW-ANT
AM-IF1
MW-RF
LW-RF
FRAME
1101
1104
1105
1122
2123
2125
2130
2107
2108
2128
3132
7107
7104
9122
9134
9105
5119
5120

# TUNER BOARD ECO5

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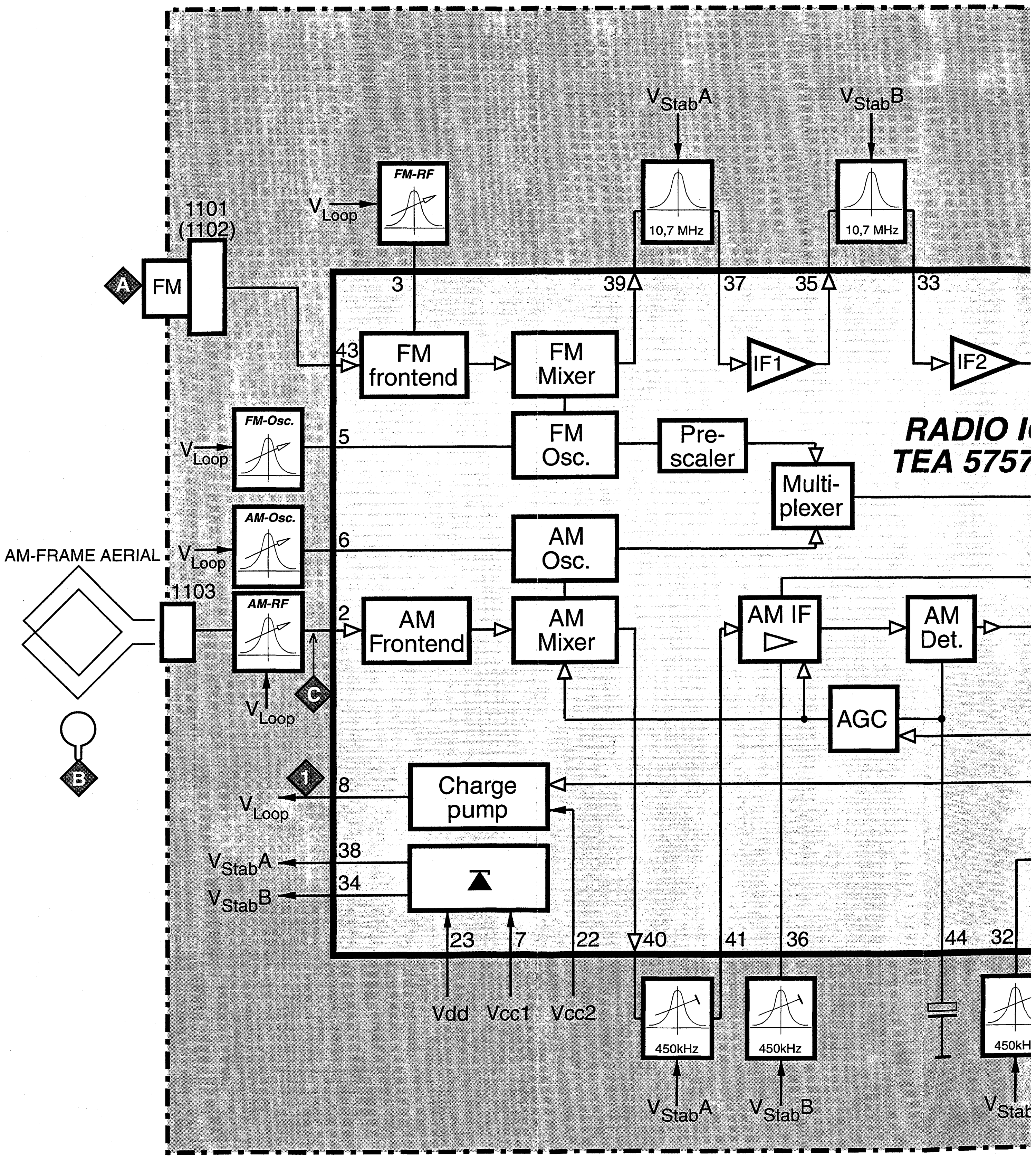
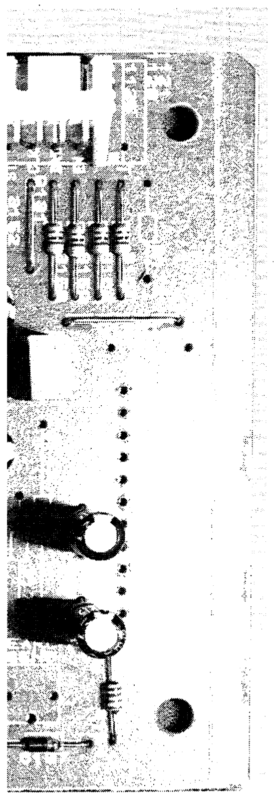
Blockdiagram ....................7B-1
Adjustmant table ....................7B-2
Component layout ....................7B-2
Circuit diagram ....................7B-3
Partslist ....................7B-4

## BLOCKDIAGRAM

# TUNER BOARD
## ECO 5 systems

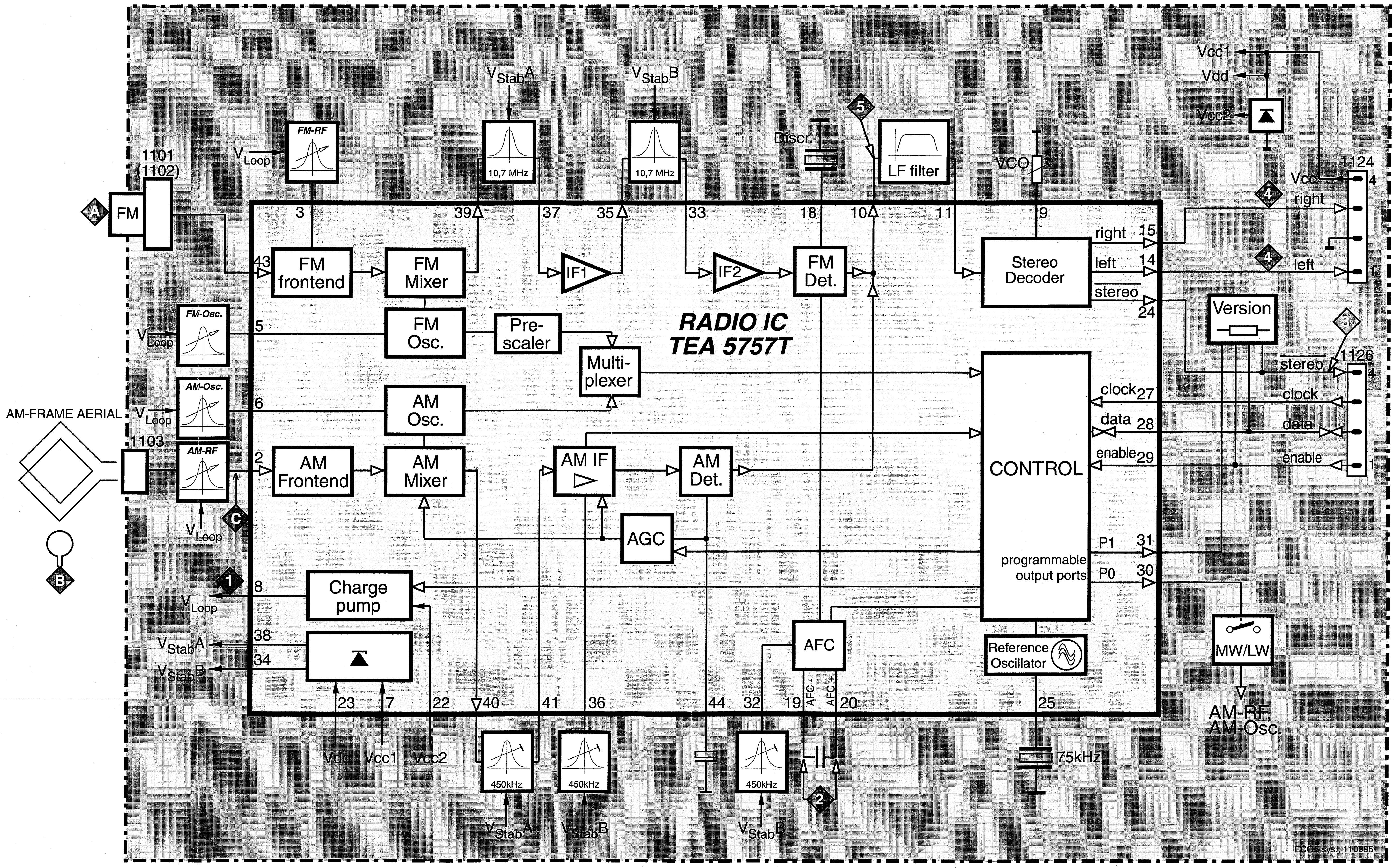

A
FM
1101
(1102)
B
AM-FRAME AERIAL
1103
C
1
FM-RF
FM-Osc.
AM-Osc.
AM-RF
V Loop
V Loop
V Loop
V Loop
V Loop
3
43
5
6
2
8
38
34
23
7
22
40
41
36
44
32
39
37
35
33
V Stab A
V Stab B
10,7 MHz
10,7 MHz
FM frontend
FM Mixer
FM Osc.
Pre-scaler
Multi-plexer
IF1
IF2
AM Osc.
AM Frontend
AM Mixer
AM IF
AM Det.
AGC
Charge pump
V Stab A
V Stab B
Vdd
Vcc1
Vcc2
450kHz
450kHz
450kH
V Stab A
V Stab B
V Stab
RADIO I
TEA 5757

**BLOCKDIAGRAM**

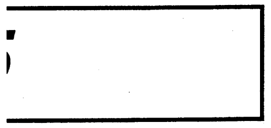


# *TUNER BOARD*

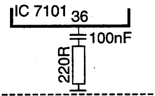
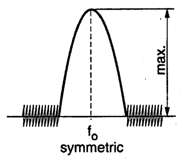
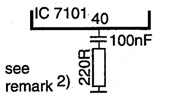
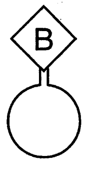
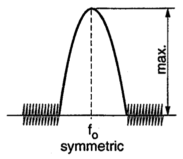
## *ECO 5 systems*



RADIO IC
TEA 5757T
A
FM
1101
(1102)
FM-RF
V Loop
FM-Osc.
AM-Osc.
AM-RF
AM-FRAME AERIAL
1103
B
C
1
2
3
4
5
V StabA
V StabB
10,7 MHz
Discr.
LF filter
VCO
FM frontend
FM Mixer
FM Osc.
Pre-scaler
Multi-plexer
AM Osc.
AM Frontend
AM Mixer
AM IF
AM Det.
AGC
IF1
IF2
FM Det.
Stereo Decoder
CONTROL
programmable output ports
Reference Oscillator
Charge pump
AFC
AFC -
AFC +
450kHz
75kHz
Vdd
Vcc1
Vcc2
right
left
stereo
clock
data
enable
P1
P0
Version
MW/LW
AM-RF, AM-Osc.
1124
1126
Vcc
43
3
39
37
35
33
18
10
11
9
15
14
24
27
28
29
31
30
25
5
6
2
8
38
34
23
7
22
40
41
36
44
32
19
20
ECO5 sys., 110995



## TUNER ADJUSTMENT TABLE ( ECO5 FM/MW- and FM/MW/LW - versions with AM-frame aerial )

| Waverange | Input frequency | Input | Tuned to | Adjust | Output | Scope/Voltmeter | |
|---|---|---|---|---|---|---|---|
| *VARICAP ALIGNMENT* | | | | | | | |
| **FM**<br>87.5 - 108MHz<br>(65.81 - 74, 87.5 - 108MHz) | | | 108MHz | 5130 | 1 | 8V ±0.2V | |
| | | | 87.5MHz<br>(65.81MHz) | check | | 4.3V ±0.5V<br>(1.2V ±0.5V) | |
| **MW**<br>FM/AM-version, 10kHz grid<br>530 - 1700kHz | | | 1700kHz | 5123 | | 8V ±0.2V | |
| | | | 530kHz | check | | 1.1V ±0.4V | |
| FM/MW-version, 9kHz grid<br>531 - 1602kHz | | | 1602kHz | 5123 | | 6.9V ±0.2V | |
| | | | 531kHz | check | | 1.1V ±0.4V | |
| **LW**<br>153 - 279kHz | | | 279kHz | 5122 | | 8V ±0.2V | |
| | | | 153kHz | check | | 1.1V ±0.4V | |
| **MW**<br>FM/MW/LW- version, 9kHz grid<br>531 - 1602kHz | | | 1602kHz | 5123 | | 8V ±0.2V | |
| | | | 531kHz | check | | 1.1V ±0.4V | |
| *FM RF* | | | | | | | |
| **FM**<br>87.5 - 108MHz<br>(65.81 - 74, 87.5 - 108MHz) | 108MHz | A<br>mod=1kHz<br>Δf=±22.5kHz | 108MHz | 2155 | 4 | MAX | ↕ |
| | 87.5MHz<br>(65.81MHz) | | 87.5MHz<br>(65.81MHz) | 5131 | | | |
| *VCO* | | | | | | | |
| **FM** | 98MHz, 1mV<br>continuous wave | A | 98MHz | 3142 | 3 | 152kHz ±1kHz 1) | |
| *AM IF* | | | | | | | |
| **MW** | 450kHz<br>connect pin 26 of IC 7101 (AM Osc.) with short wire to ground (pin 4) | C<br>Δf=±15kHz<br>$V_{RF}$ = 3mV |  IC 7101 36<br>100nF<br>220R | 5111 | 4 |  | |
| | | |  IC 7101 40<br>100nF<br>220R<br>see remark 2) | 5112 | | | |
| *AM AFC*<br>**MW** | | C<br>continuous wave<br>$V_{RF}$ = 10mV | | 5114 | 2 | 0 ± 2 mV DC | |
| *AM RF 3)* | | | | | | | |
| **MW 4)**<br>FM/MW/LW- and FM/MW-version<br>( 9kHz grid)<br>531 - 1602kHz | 1494kHz |  | 1494kHz | 2106 | 4 |  | ↕ |
| | 558kHz | | 558kHz | 5102 | | | |
| **LW** | 198kHz | | 198kHz | 5103 | | | |
| **MW**<br>FM/AM-version, 10kHz grid<br>530 - 1700kHz | 1500kHz | Δf = ±30kHz<br>$V_{RF}$ as low as possible | 1500kHz | 2106 | | | ↕ |
| | 560kHz | | 560kHz | 5102 | | | |

ECO5, 170996

Use service test program. By selecting the TUNER TEST test frequencies will be stored as preset frequencies automatically.

1) If sensitivity of frequency counter is too low adjust to max. channel separation (input signal: stereo left 90% + 9%, adjust output on right channel to minimum)

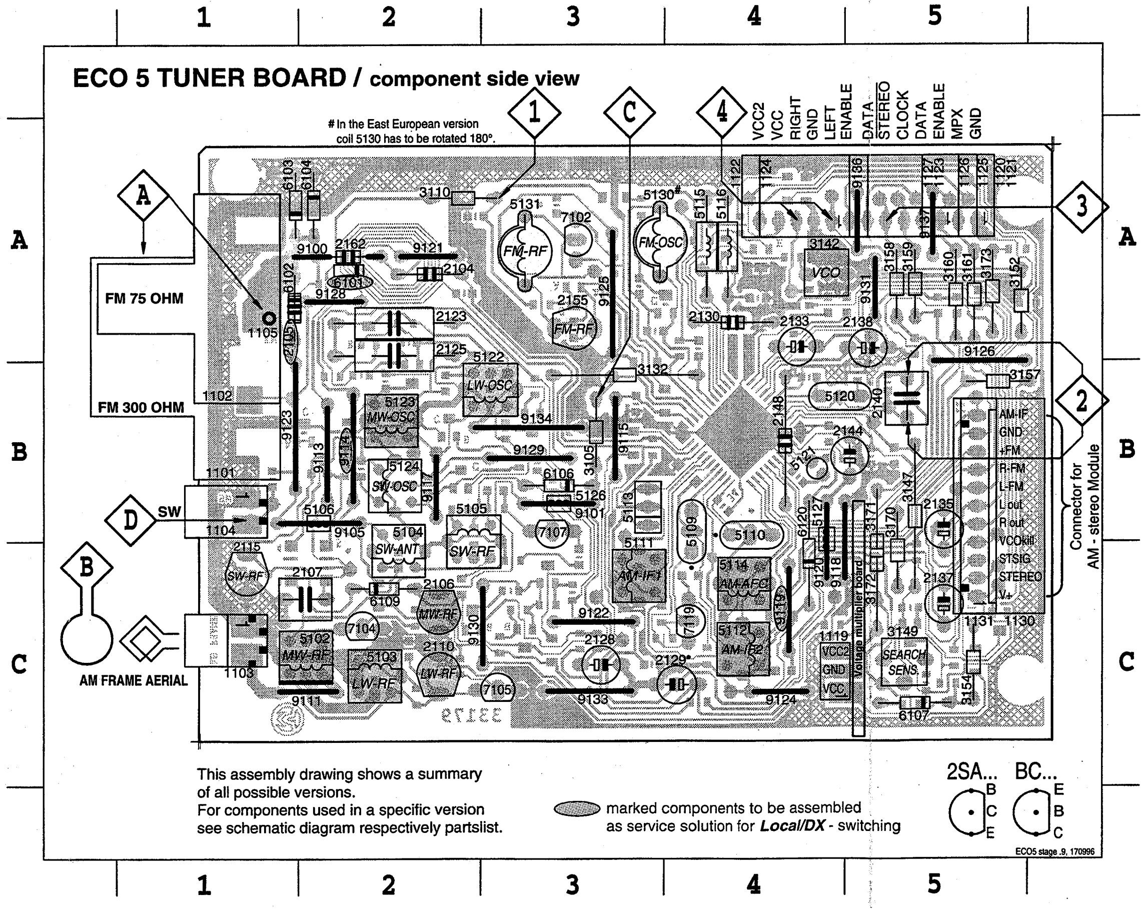
2) RC network serves for damping the IF-filter while adjusting the other one.

3) For AM RF adjustments the original frame antenna has to be used !

4) MW has to be aligned before LW.

↕ Repeat

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1101 | A1 | 2129 | C4 | 3154 | C5 | 5112 | C4 | 6106 | B3 | 9119 | C4 |
| 1102 | A1 | 2130 | A4 | 3157 | B5 | 5113 | B3 | 6107 | C5 | 9120 | B4 |
| 1103 | C1 | 2133 | A4 | 3158 | A5 | 5114 | C4 | 6109 | C2 | 9121 | A2 |
| 1104 | B1 | 2135 | B5 | 3159 | A5 | 5115 | A4 | 6120 | C4 | 9122 | C3 |
| 1105 | A1 | 2137 | C5 | 3160 | A5 | 5116 | A4 | 7102 | A3 | 9123 | B1 |
| 1119 | C5 | 2138 | A5 | 3161 | A5 | 5120 | B4 | 7104 | C2 | 9124 | C4 |
| 1120 | A5 | 2140 | B5 | 3170 | C5 | 5121 | B4 | 7105 | C3 | 9125 | A3 |
| 1130 | B5 | 2144 | B5 | 3171 | C5 | 5122 | B3 | 7107 | B3 | 9126 | B5 |
| 1131 | B5 | 2148 | B4 | 3172 | C5 | 5123 | B2 | 7119 | C4 | 9128 | A2 |
| 2104 | A2 | 2155 | A3 | 3173 | A5 | 5124 | B2 | 9100 | A2 | 9129 | B3 |
| 2105 | A1 | 2162 | A2 | 5102 | C2 | 5126 | B3 | 9101 | B3 | 9130 | C3 |
| 2106 | C2 | 3105 | B3 | 5103 | C2 | 5127 | B4 | 9105 | B2 | 9131 | A5 |
| 2107 | C2 | 3110 | A2 | 5104 | C2 | 5130 | A3 | 9111 | C2 | 9133 | C3 |
| 2110 | C2 | 3132 | B3 | 5105 | B2 | 5131 | A3 | 9113 | B2 | 9134 | B3 |
| 2115 | C1 | 3142 | A4 | 5106 | B2 | 6101 | A2 | 9114 | B2 | 9136 | A5 |
| 2123 | A2 | 3147 | B5 | 5109 | B4 | 6102 | A1 | 9115 | B3 | 9137 | A5 |
| 2125 | A2 | 3149 | C5 | 5110 | B4 | 6103 | A1 | 9117 | B2 | | |
| 2128 | C3 | 3152 | A5 | 5111 | C3 | 6104 | A2 | 9118 | B4 | | |



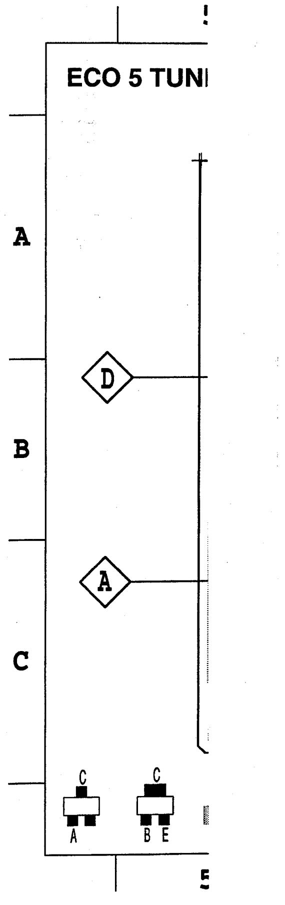
**ECO 5 TUNER BOARD / component side view**

1
2
3
4
5
A
B
C
# In the East European version coil 5130 has to be rotated 180°.
VCC2
VCC
RIGHT
GND
LEFT
ENABLE
DATA
STEREO
CLOCK
DATA
ENABLE
MPX
GND
FM 75 OHM
FM 300 OHM
SW
AM FRAME AERIAL
FM-RF
FM-OSC
VCO
MW-OSC
LW-OSC
SW-OSC
SW-ANT
SW-RF
AM-IF1
AM-AFC
AM-IF2
MW-RF
LW-RF
SEARCH SENS.
AM-IF
GND
+FM
R-FM
L-FM
L out
R out
VCOM
STSIG
STEREO
V+
Connector for AM - stereo Module
2SA...
BC...
B
C
E
E
B
C
ECO5 stage .9, 170996

This assembly drawing shows a summary of all possible versions.
For components used in a specific version see schematic diagram respectively partslist.

marked components to be assembled as service solution for ***Local/DX*** - switching

| | | | |
|---|---|---|---|
| 2101 | C 4 | 2127 | C |
| 2102 | C 4 | 2131 | C |
| 2103 | C 3 | 2132 | C |
| 2108 | A 4 | 2134 | C |
| 2109 | A 4 | 2136 | B |
| 2111 | A 2 | 2139 | B |
| 2112 | B 5 | 2141 | B |
| 2113 | A 4 | 2142 | B |
| 2114 | A 4 | 2143 | A |
| 2116 | B 3 | 2145 | C |
| 2117 | A 3 | 2146 | C |
| 2118 | B 4 | 2147 | C |
| 2119 | B 4 | 2149 | B |
| 2120 | B 4 | 2150 | B |
| 2122 | B 3 | 2151 | C |
| 2124 | A 5 | 2152 | C |
| 2126 | C 2 | 2153 | C |

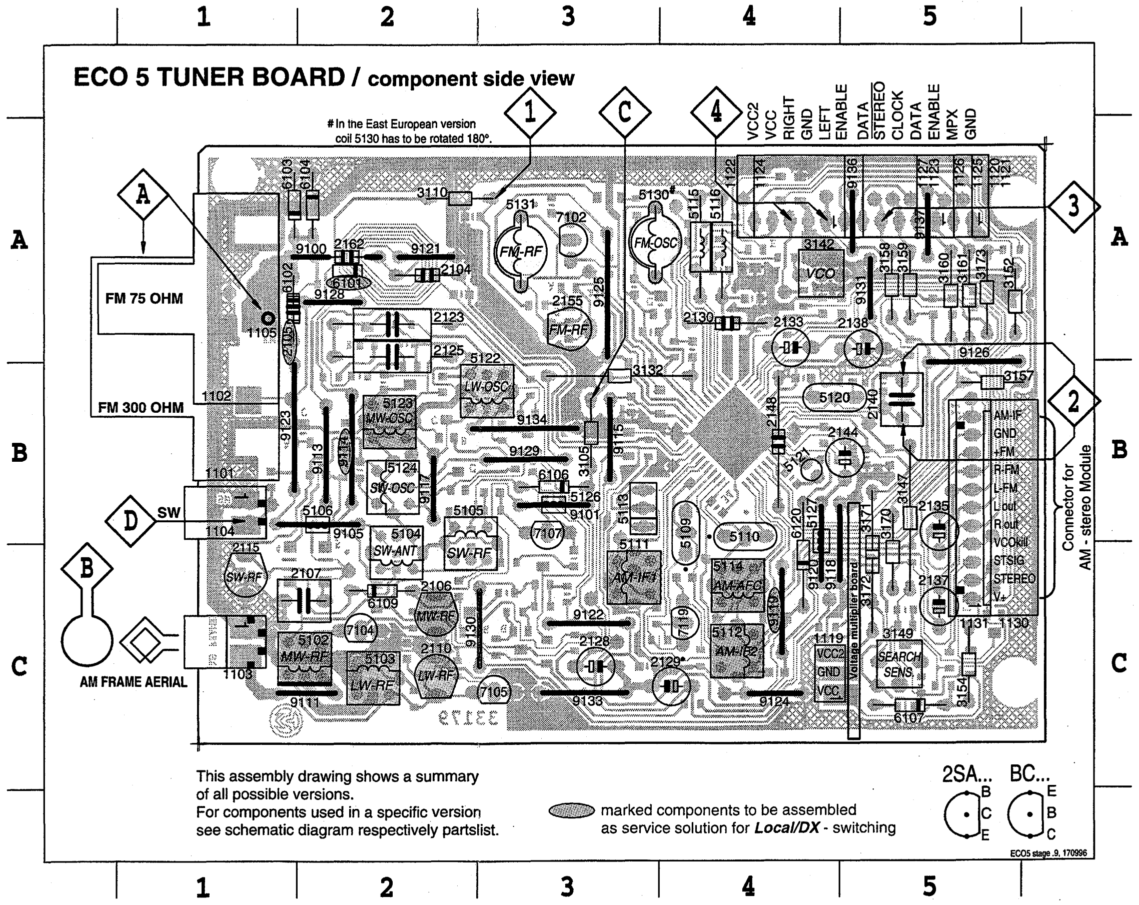


ECO 5 TUNI
A
B
C
D
A
C
C
A
B E

eter

z 1)

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1101 | A1 | 2129 | C4 | 3154 | C5 | 5112 | C4 | 6106 | B3 | 9119 | C4 |
| 1102 | A1 | 2130 | A4 | 3157 | B5 | 5113 | B3 | 6107 | C5 | 9120 | B4 |
| 1103 | C1 | 2133 | A4 | 3158 | A5 | 5114 | C4 | 6109 | C2 | 9121 | A2 |
| 1104 | B1 | 2135 | B5 | 3159 | A5 | 5115 | A4 | 6120 | C4 | 9122 | C3 |
| 1105 | A1 | 2137 | C5 | 3160 | A5 | 5116 | A4 | 7102 | A3 | 9123 | B1 |
| 1119 | C5 | 2138 | A5 | 3161 | A5 | 5120 | B4 | 7104 | C2 | 9124 | C4 |
| 1120 | A5 | 2140 | B5 | 3170 | C5 | 5121 | B4 | 7105 | C3 | 9125 | A3 |
| 1130 | B5 | 2144 | B5 | 3171 | C5 | 5122 | B3 | 7107 | B3 | 9126 | B5 |
| 1131 | B5 | 2148 | B4 | 3172 | C5 | 5123 | B2 | 7119 | C4 | 9128 | A2 |
| 2104 | A2 | 2155 | A3 | 3173 | A5 | 5124 | B2 | 9100 | A2 | 9129 | B3 |
| 2105 | A1 | 2162 | A2 | 5102 | C2 | 5126 | B3 | 9101 | B3 | 9130 | C3 |
| 2106 | C2 | 3105 | B3 | 5103 | C2 | 5127 | B4 | 9105 | B2 | 9131 | A5 |
| 2107 | C2 | 3110 | A2 | 5104 | C2 | 5130 | A3 | 9111 | C2 | 9133 | C3 |
| 2110 | C2 | 3132 | B3 | 5105 | B2 | 5131 | A3 | 9113 | B2 | 9134 | B3 |
| 2115 | C1 | 3142 | A4 | 5106 | B2 | 6101 | A2 | 9114 | B2 | 9136 | A5 |
| 2123 | A2 | 3147 | B5 | 5109 | B4 | 6102 | A1 | 9115 | B3 | 9137 | A5 |
| 2125 | A2 | 3149 | C5 | 5110 | B4 | 6103 | A1 | 9117 | B2 | | |
| 2128 | C3 | 3152 | A5 | 5111 | C3 | 6104 | A2 | 9118 | B4 | | |


1
2
3
4
5
A
B
C
1
2
3
4
5
A
B
C
D
VCC2
VCC
RIGHT
GND
LEFT
ENABLE
DATA
STEREO
CLOCK
DATA
ENABLE
MPX
GND
FM 75 OHM
FM 300 OHM
SW
AM FRAME AERIAL
FM-RF
FM-OSC
VCO
LW-OSC
MW-OSC
SW-OSC
SW-ANT
SW-RF
MW-RF
LW-RF
AM-IF1
AM-AFC
AM-IF2
SEARCH SENS.
Connector for AM - stereo Module
Voltage multiplier board
AM-IF
GND
+FM
R-FM
L-FM
L out
R out
VCOkill
STSIG
STEREO
V+
2SA...
BC...
B
C
E
ECO5 stage .9, 170996

**ECO 5 TUNER BOARD** / component side view

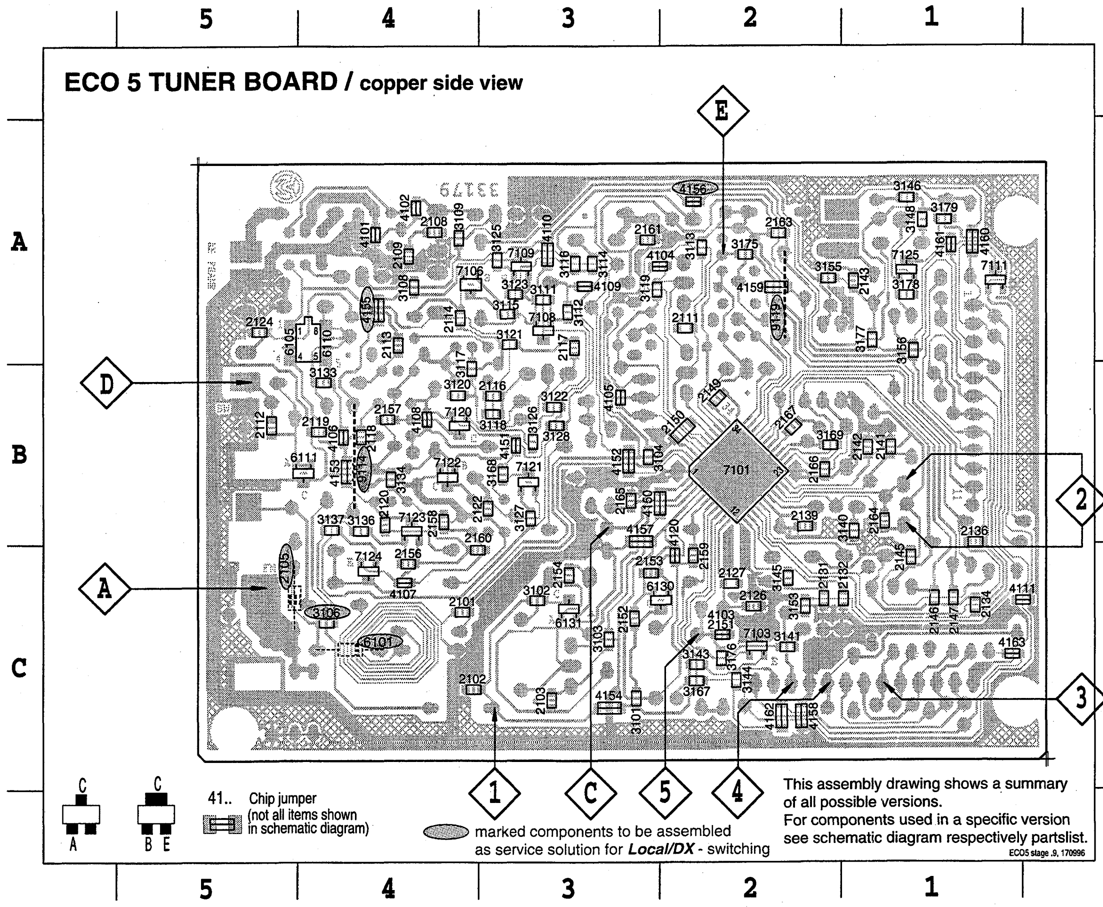
# In the East European version coil 5130 has to be rotated 180°.

This assembly drawing shows a summary of all possible versions.
For components used in a specific version see schematic diagram respectively partslist.

marked components to be assembled as service solution for *Local/DX* - switching

ↄ05, 170996

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2101 | C 4 | 2127 | C 2 | 2154 | C 3 | 3108 | A 4 | 3127 | B 3 | 3168 | B 3 | 4111 | C 1 | 6110 | A 4 |
| 2102 | C 4 | 2131 | C 2 | 2156 | C 4 | 3109 | A 4 | 3128 | B 3 | 3169 | B 2 | 4120 | C 2 | 6111 | B 4 |
| 2103 | C 3 | 2132 | C 1 | 2157 | B 4 | 3111 | A 3 | 3133 | B 4 | 3175 | A 2 | 4150 | B 2 | 6130 | C 2 |
| 2108 | A 4 | 2134 | C 1 | 2158 | B 4 | 3112 | A 3 | 3134 | B 4 | 3176 | C 2 | 4151 | B 3 | 6131 | C 3 |
| 2109 | A 4 | 2136 | B 1 | 2159 | C 2 | 3113 | A 2 | 3136 | B 4 | 3177 | A 1 | 4152 | B 3 | 7101 | B 2 |
| 2111 | A 2 | 2139 | B 2 | 2160 | C 4 | 3114 | A 3 | 3137 | B 4 | 3178 | A1 | 4153 | B 4 | 7103 | C 2 |
| 2112 | B 5 | 2141 | B 1 | 2161 | A 3 | 3115 | A 3 | 3140 | B 1 | 3179 | A1 | 4154 | C 3 | 7106 | A 4 |
| 2113 | A 4 | 2142 | B 1 | 2163 | A 2 | 3116 | A 3 | 3141 | C 2 | 4101 | A 4 | 4155 | A 4 | 7108 | A 3 |
| 2114 | A 4 | 2143 | A 1 | 2164 | B 1 | 3117 | B 4 | 3143 | C 2 | 4102 | A 4 | 4156 | A 2 | 7109 | A 3 |
| 2116 | B 3 | 2145 | C 1 | 2165 | B 3 | 3118 | B 3 | 3144 | C 2 | 4103 | C 2 | 4157 | B 3 | 7111 | A 1 |
| 2117 | A 3 | 2146 | C 1 | 2166 | B 2 | 3119 | A 3 | 3145 | C 2 | 4104 | A 2 | 4158 | C 2 | 7120 | B 4 |
| 2118 | B 4 | 2147 | C 1 | 2167 | B 2 | 3120 | B 4 | 3146 | A 1 | 4105 | B 3 | 4159 | A 2 | 7121 | B 3 |
| 2119 | B 4 | 2149 | B 2 | 3101 | C 3 | 3121 | A 3 | 3148 | A 1 | 4106 | B 4 | 4160 | A 1 | 7122 | B 4 |
| 2120 | B 4 | 2150 | B 2 | 3102 | C 3 | 3122 | B 3 | 3153 | C 2 | 4107 | C 4 | 4161 | A1 | 7123 | B 4 |
| 2122 | B 3 | 2151 | C 2 | 3103 | C 3 | 3123 | A 3 | 3155 | A 2 | 4108 | B 4 | 4162 | C1 | 7124 | C 4 |
| 2124 | A 5 | 2152 | C 3 | 3104 | B 3 | 3125 | A 3 | 3156 | A 1 | 4109 | A 3 | 4163 | C1 | 7125 | A1 |
| 2126 | C 2 | 2153 | C 3 | 3106 | C 4 | 3126 | B 3 | 3167 | C 2 | 4110 | A 3 | 6105 | A 4 | | |

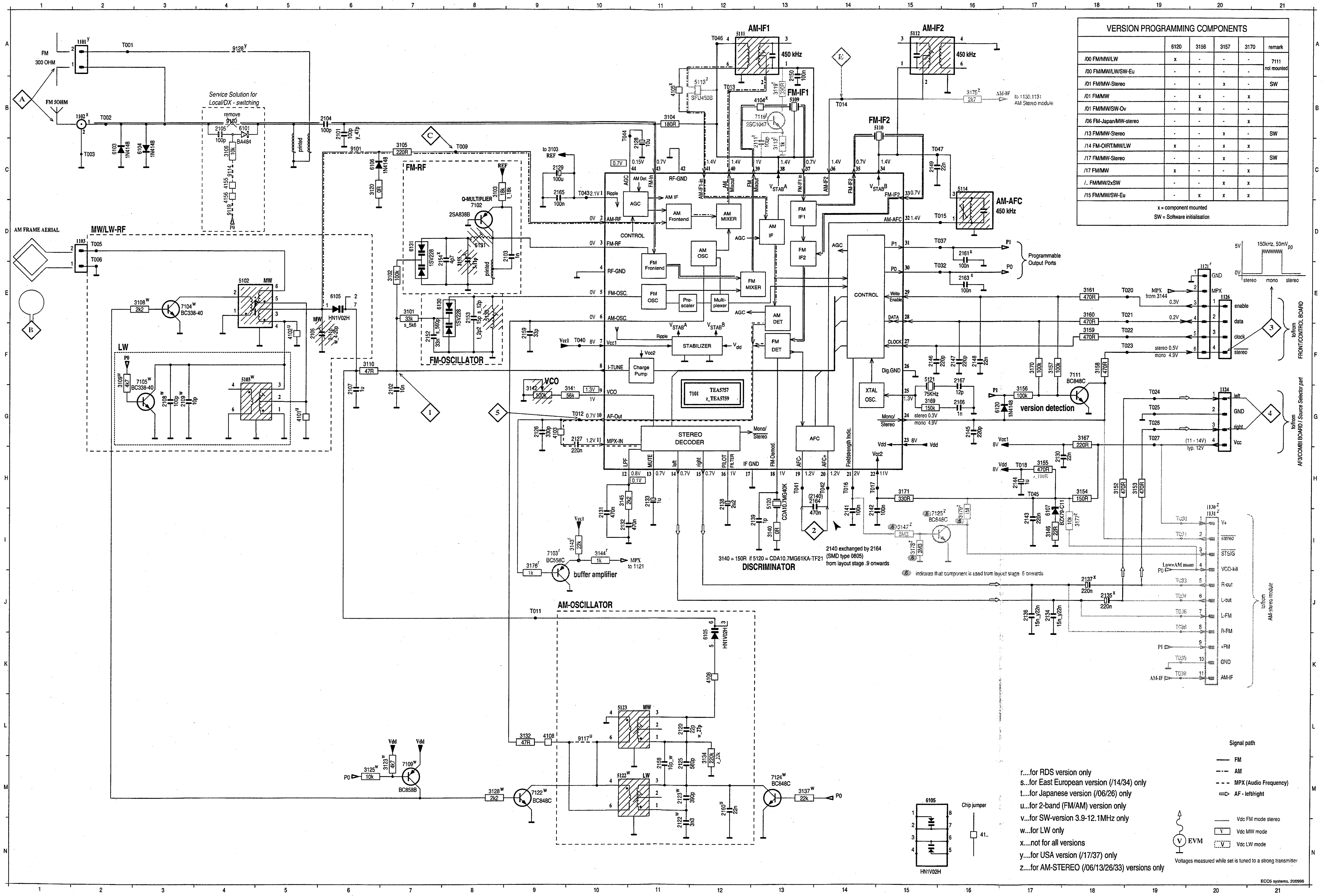

5
4
3
2
1
A
B
C
E
D
A
2
3
1
C
5
4
7101
C
A
C
B E
41..
Chip jumper
(not all items shown in schematic diagram)
ECO5 stage .9, 170996

**ECO 5 TUNER BOARD** / copper side view

marked components to be assembled as service solution for *Local/DX* - switching

This assembly drawing shows a summary of all possible versions.
For components used in a specific version see schematic diagram respectively partslist.

# TUNER BOARD ECO5 / Systems


FM 300 OHM
FM 50HM
AM FRAME AERIAL
MW/LW-RF
LW
MW
Service Solution for Local/DX - switching
remove
FM-RF
Q-MULTIPLIER 7102
2SA838B
FM-OSCILLATOR
AM-IF1
450 kHz
AM-IF2
FM-IF1
FM-IF2
AM-AFC 450 kHz
AGC
AM Frontend
AM MIXER
AM IF
FM IF1
FM IF2
FM Frontend
AM OSC
FM MIXER
FM OSC
Pre-scaler
Multi-plexer
AM DET
FM DET
STABILIZER
Charge Pump
CONTROL
TEA5757
TEA5759
STEREO DECODER
AFC
XTAL OSC.
75KHz
VCO
buffer amplifier
DISCRIMINATOR
3140 = 150R if 5120 = CDA10.7MG61KA-TF21
2140 exchanged by 2164 (SMD type 0805) from layout stage .9 onwards
indicates that component is used from layout stage .6 onwards
AM-OSCILLATOR
version detection
Programmable Output Ports
150kHz, 50mV_pp
5V
0V
stereo
mono
stereo
to/from FRONT/CONTROL BOARD
to/from AF3/COMBI BOARD / Source Selector part
to/from AM-stereo module
to 1130,1131 AM Stereo module
enable
data
clock
stereo
left
GND
right
Vcc
Chip jumper
HN1V02H
EVM
ECO5 systems. 200996

| VERSION PROGRAMMING COMPONENTS | 6120 | 3156 | 3157 | 3170 | remark |
|---|---|---|---|---|---|
| /00 FM/MW/LW | x | - | - | - | 7111 not mounted |
| /00 FM/MW/LW/SW-Eu | - | - | - | - | |
| /01 FM/MW-Stereo | - | - | x | - | SW |
| /01 FM/MW | - | x | - | x | |
| /01 FM/MW/SW-Ov | - | x | - | - | |
| /06 FM-Japan/MW-stereo | - | - | - | x | |
| /13 FM/MW-Stereo | - | - | x | - | SW |
| /14 FM-OIRT/MW/LW | x | - | x | x | |
| /17 FM/MW-Stereo | - | - | x | - | SW |
| /17 FM/MW | x | - | - | x | |
| /.. FM/MW/2xSW | - | - | x | x | |
| /15 FM/MW/SW-Eu | - | x | x | x | |

x = component mounted
SW = Software initialisation

r....for RDS version only
s...for East European version (/14/34) only
t....for Japanese version (/06/26) only
u...for 2-band (FM/AM) version only
v...for SW-version 3.9-12.1MHz only
w...for LW only
x....not for all versions
y....for USA version (/17/37) only
z....for AM-STEREO (/06/13/26/33) versions only

**Signal path**

— FM
-·- AM
- - - MPX (Audio Frequency)
⇨ AF - left/right

........... Vdc FM mode stereo
V Vdc MW mode
V Vdc LW mode

Voltages measured while set is tuned to a strong transmitter

| | |
|---|---|
| 1101 | A 1 |
| 1102 | B 2 |
| 1103 | D 2 |
| 1121 | E20 |
| 1124 | G20 |
| 1126 | E20 |
| 1130 | I20 |
| 1131 | I20 |
| 2101 | C 6 |
| 2102 | G 7 |
| 2103 | D 9 |
| 2104 | B 6 |
| 2106 | F 5 |
| 2107 | G 6 |
| 2108 | G 3 |
| 2109 | G 3 |
| 2111 | C13 |
| 2120 | L11 |
| 2122 | N11 |
| 2123 | M11 |
| 2125 | M11 |
| 2126 | G 9 |
| 2127 | G10 |
| 2128 | C11 |
| 2129 | C 9 |
| 2130 | H17 |
| 2131 | I10 |
| 2132 | I10 |
| 2133 | H11 |
| 2134 | J17 |
| 2135 | J18 |
| 2136 | J17 |
| 2137 | J18 |
| 2138 | H12 |
| 2139 | I13 |
| 2140 | H14 |
| 2141 | H14 |
| 2142 | H14 |
| 2143 | I17 |
| 2144 | H17 |
| 2145 | G16 |
| 2146 | F15 |
| 2147 | F16 |
| 2148 | F16 |
| 2149 | C15 |
| 2150 | B13 |
| 2152 | F 7 |
| 2153 | E 8 |
| 2154 | E 7 |
| 2155 | D 8 |
| 2158 | M11 |
| 2159 | F 9 |
| 2160 | M12 |
| 2161 | D16 |
| 2163 | E16 |
| 2164 | H14 |
| 2165 | C 9 |
| 2166 | G16 |
| 2167 | F16 |
| 3101 | E 7 |
| 3102 | E 7 |
| 3103 | C 8 |
| 3104 | B11 |
| 3105 | C 7 |
| 3108 | E 3 |
| 3109 | F 2 |
| 3110 | F 6 |
| 3113 | C13 |
| 3119 | B13 |
| 3120 | C 6 |
| 3123 | M 7 |
| 3125 | M 6 |
| 3128 | M 8 |
| 3132 | L 9 |
| 3134 | M12 |
| 3137 | M13 |
| 3140 | I13 |
| 3141 | G10 |
| 3142 | G 9 |
| 3143 | I10 |
| 3144 | I10 |
| 3145 | H10 |
| 3146 | I17 |
| 3147 | I15 |
| 3152 | H18 |
| 3153 | H19 |
| 3154 | H18 |
| 3155 | H17 |
| 3156 | G17 |
| 3157 | F17 |
| 3158 | F18 |
| 3159 | F18 |
| 3160 | E18 |
| 3161 | E18 |
| 3167 | G18 |
| 3169 | G15 |
| 3170 | F17 |
| 3171 | H15 |
| 3175 | B16 |
| 3176 | J 9 |
| 3177 | I18 |
| 3178 | I15 |
| 3179 | I16 |
| 4101 | G 5 |
| 4102 | F 5 |
| 4103 | G 9 |
| 4104 | B13 |
| 4105 | B11 |
| 4106 | K12 |
| 4108 | L 9 |
| 5102 | E 4 |
| 5103 | F 4 |
| 5109 | B13 |
| 5110 | B14 |
| 5111 | A13 |
| 5112 | A15 |
| 5113 | B12 |
| 5114 | C16 |
| 5120 | H13 |
| 5121 | F15 |
| 5122 | M11 |
| 5123 | L11 |
| 5130 | E 8 |
| 5131 | D 8 |
| 6103 | C 2 |
| 6104 | C 3 |
| 6105 | K12 |
| 6105 | E 6 |
| 6106 | C 6 |
| 6107 | H17 |
| 6120 | G16 |
| 6130 | E 7 |
| 6131 | D 7 |
| 7101 | G11 |
| 7102 | D 8 |
| 7103 | I 9 |
| 7104 | E 3 |
| 7105 | F 2 |
| 7109 | M 7 |
| 7111 | F18 |
| 7119 | B13 |
| 7122 | M 9 |
| 7124 | M13 |
| 7125 | I16 |
| 9100 | B 4 |
| 9101 | C 6 |
| 9117 | L10 |
| 9128 | A 4 |

## *ELECTRICAL PARTS LIST - ECO5 SYS BOARD*

### MISCELLANEOUS

| | | |
|---|---|---|
| 1101 | 4822 267 31505 | Antenna connector 300E |
| 1102 | 4822 267 10283 | Socket Coaxial IEC 75E |

### CAPACITORS

| | | |
|---|---|---|
| 2101 | 5322 122 32531 | 100pF 5% 50V |
| 2101 | 5322 122 32452 | 47pF 5% 63V |
| 2102 | 4822 122 33177 | 10nF 20% 50V |
| 2103 | 5322 122 34123 | 1nF 10% 50V |
| 2104 | 4822 122 33195 | 100pF 10% 50V |
| 2106 | 4822 125 50355 | Trimmer 4-20pF |
| 2106 | 4822 125 60101 | Trimmer 3-11pF 100V |
| 2107 | 4822 121 51319 | 1µF 10% 63V |
| 2108 | 5322 122 32531 | 100pF 5% 50V |
| 2109 | 5322 122 32448 | 10pF 5% 50V |
| 2120 | 5322 122 31946 | 27pF 5% 63V |
| 2120 | 5322 122 32658 | 22pF 5% 50V |
| 2122 | 4822 122 33891 | 3,3nF 10% 63V |
| 2123 | 4822 121 51254 | 390pF 1% 400V |
| 2125 | 4822 121 51381 | 560pF 5% 400V |
| 2126 | 5322 122 31863 | 330pF 5% 50V |
| 2127 | 4822 122 32927 | 220nF +80/-20% 50V |
| 2127 | 4822 126 13473 | 220nF +80/-20% 50V |
| 2128 | 4822 124 41579 | 10µF 20% 50V |
| 2129 | 4822 124 41584 | 100µF 20% 10V |
| 2130 | 4822 126 11585 | 22nF+80/-20% 25V |
| 2131 | 4822 122 33325 | 470nF 16V |
| 2131 | 4822 126 13482 | 470nF +80/-20% 16V |
| 2132 | 4822 122 33325 | 470nF 16V |
| 2132 | 4822 126 13482 | 470nF80/ 20% 16V |
| 2133 | 4822 124 40242 | 1µF 20% 63V |
| 2134 | 4822 122 33128 | 15nF 10% 63V |
| 2134 | 5322 122 32654 | 22nF 10% 63V |
| 2135 | 4822 124 40746 | 0,22µF 20% 63V |
| 2136 | 4822 122 33128 | 15nF 10% 63V |
| 2136 | 5322 122 32654 | 22nF 10% 63V |
| 2137 | 4822 124 40746 | 0,22µF 20% 63V |
| 2138 | 4822 124 41576 | 2,2µF 20% 50V |
| 2139 | 5322 122 32447 | 1pF 5% 50V |
| 2140 | 4822 121 51252 | 470nF 5% 63V |
| 2141 | 4822 122 31947 | 100nF 20% 63V |
| 2141 | 4822 126 10002 | 100nF 20% 25V |
| 2142 | 4822 122 31947 | 100nF 20% 63V |
| 2142 | 4822 126 10002 | 100nF 20% 25V |
| 2143 | 4822 122 32927 | 220nF +80/-20% 50V |
| 2143 | 4822 126 13473 | 220nF +80/-20% 50V |
| 2144 | 4822 124 40242 | 1µF 20% 63V |
| 2145 | 4822 122 33575 | 220pF 5% 50V |
| 2146 | 4822 122 33575 | 220pF 5% 50V |
| 2147 | 4822 122 33575 | 220pF 5% 50V |
| 2148 | 4822 126 11585 | 22nF+80/-20% 25V |
| 2149 | 5322 122 32654 | 22nF 10% 63V |
| 2150 | 4822 122 31947 | 100nF 20% 63V |
| 2152 | 5322 116 80853 | 560pF 5% 63V |
| 2152 | 4822 122 33342 | 33nF 10% 63V |
| 2153 | 4822 122 32139 | 12pF 2% 63V |
| 2153 | 5322 122 32481 | 15pF 5% 50V |
| 2155 | 4822 125 60101 | Trimmer 3-11pF 100V |
| 2158 | 5322 122 32448 | 10pF 5% 50V |
| 2159 | 5322 122 32659 | 33pF 5% 50V |
| 2160 | 5322 122 32654 | 22nF 10% 63V |
| 2161 | 4822 122 31947 | 100nF 20% 63V |
| 2161 | 4822 126 10002 | 100nF 20% 25V |
| 2163 | 4822 122 31947 | 100nF 20% 63V |
| 2163 | 4822 126 10002 | 100nF 20% 25V |
| 2164 | 4822 126 13482 | 470nF80/ 20% 16V |
| 2165 | 4822 122 31947 | 100nF 20% 63V |
| 2165 | 4822 126 10002 | 100nF 20% 25V |
| 2166 | 5322 122 34123 | 1nF 10% 50V |
| 2167 | 4822 122 32139 | 12pF 2% 63V |

### RESISTORS

| | | |
|---|---|---|
| 3101 | 4822 051 20562 | 5k6 5% 0,1W |
| 3101 | 4822 051 20333 | 33k 5% 0,1W |
| 3102 | 4822 051 20104 | 100k 5% 0,1W |
| 3103 | 4822 051 20183 | 18k 5% 0,1W |
| 3104 | 4822 117 11448 | 180E 1% 0,1W |
| 3105 | 4822 116 83872 | 220E 5% 0,5W |
| 3108 | 4822 117 11449 | 2k2 1% 0,1W |
| 3109 | 4822 051 20472 | 4k7 5% 0,1W |
| 3110 | 4822 116 52195 | 47E 5% 0,5W |
| 3120 | 4822 051 20008 | Chip Jumper 0805 |
| 3123 | 4822 051 20472 | 4k7 5% 0,1W |
| 3125 | 4822 117 10833 | 10k 1% 0,1W |
| 3128 | 4822 117 11449 | 2k2 1% 0,1W |
| 3132 | 4822 116 52195 | 47E 5% 0,5W |
| 3134 | 4822 051 20224 | 220k 5% 0,1W |
| 3137 | 4822 051 20223 | 22k 5% 0,1W |
| 3140 | 4822 051 20008 | Chip Jumper 0805 |
| 3140 | 4822 117 10353 | 150E 1% 0,1W |
| 3141 | 4822 051 20563 | 56k 5% 0,1W |
| 3142 | 4822 100 11163 | 100k 30%LIN 0,1W |
| 3145 | 4822 117 11449 | 2k2 1% 0,1W |
| 3146 | 4822 051 20229 | 22E 5% 0,1W |
| 3152 | 4822 116 52224 | 470E 5% 0,5W |
| 3153 | 4822 051 20471 | 470E 5% 0,1W |
| 3154 | 4822 116 83868 | 150E 5% 0,5W |
| 3155 | 4822 051 20471 | 470E 5% 0,1W |
| 3156 | 4822 051 20104 | 100k 5% 0,1W |
| 3157 | 4822 116 52234 | 100k 5% 0,5W |
| 3158 | 4822 116 52224 | 470E 5% 0,5W |
| 3159 | 4822 116 52224 | 470E 5% 0,5W |
| 3160 | 4822 116 52224 | 470E 5% 0,5W |
| 3161 | 4822 116 52224 | 470E 5% 0,5W |
| 3167 | 4822 051 20221 | 220E 5% 0,1W |
| 3169 | 4822 051 20154 | 150k 5% 0,1W |

---

## *ELECTRICAL PARTS LIST - ECO5 SYS BOARD*

| | | |
|---|---|---|
| 3170 | 4822 116 52234 | 100k 5% 0,5W |
| 3171 | 4822 116 52219 | 330E 5% 0,5W |
| 4101 | 4822 051 20008 | Chip Jumper 0805 |
| 4102 | 4822 051 20008 | Chip Jumper 0805 |
| 4103 | 4822 051 20008 | Chip Jumper 0805 |
| 4104 | 4822 051 20008 | Chip Jumper 0805 |
| 4105 | 4822 051 20008 | Chip Jumper 0805 |
| 4106 | 4822 051 20008 | Chip Jumper 0805 |
| 4108 | 4822 051 20008 | Chip Jumper 0805 |
| 4111 | 4822 051 20008 | Chip Jumper 0805 |
| 4120 | 4822 051 20008 | Chip Jumper 0805 |
| 4150 | 4822 051 10008 | Chip Jumper 1206 |
| 4151 | 4822 051 20008 | Chip Jumper 0805 |
| 4152 | 4822 051 10008 | Chip Jumper 1206 |
| 4153 | 4822 051 10008 | Chip Jumper 1206 |
| 4154 | 4822 051 10008 | Chip Jumper 1206 |
| 4155 | 4822 051 10008 | Chip Jumper 1206 |
| 4156 | 4822 051 20008 | Chip Jumper 0805 |
| 4157 | 4822 051 10008 | Chip Jumper 1206 |
| 4158 | 4822 051 10008 | Chip Jumper 1206 |
| 4159 | 4822 051 10008 | Chip Jumper 1206 |

### COILS & FILTERS

| | | |
|---|---|---|
| 5102 | 4822 157 71634 | RF Coil MW |
| 5103 | 4822 157 71635 | RF Coil LW |
| 5109 | 4822 242 70665 | Ceram Filter 10.7MHz |
| 5110 | 4822 242 70665 | Ceram Filter 10.7MHz |
| 5111 | 4822 158 60511 | AM-IF Filter 450kHz |
| 5112 | 4822 157 70302 | AM-IF Filter 450kHz |
| 5114 | 4822 157 70302 | AM-AFC Filter 450kHz |
| 5120 | 4822 242 82065 | Ceram Filter 10.7MHz |
| 5120 | 4822 242 10251 | Ceram Filter 10.7MHz |
| 5121 | 4822 242 10261 | QUARTZ 75kHZ |
| 5122 | 4822 157 60517 | OSC. COIL LW |
| 5123 | 4822 157 60517 | OSC. COIL MW |
| 5130 | 4822 156 30947 | RF-COIL 1.5 TURNS |
| 5131 | 4822 156 30947 | RF-COIL 1.5 TURNS |

### DIODES

| | | |
|---|---|---|
| 6103 | 4822 130 30621 | 1N4148 |
| 6104 | 4822 130 30621 | 1N4148 |
| 6105 | 4822 130 83075 | HN1V02H, VARICAP. |
| 6106 | 4822 130 30621 | 1N4148 |
| 6107 | 4822 130 34488 | BZX79-C11 (COL) |
| 6120 | 4822 130 30621 | 1N4148 |
| 6130 | 4822 130 82833 | 1SV228 |
| 6131 | 4822 130 82833 | 1SV228 |

### TRANSISTORS & INTEGRATED CIRCUITS

| | | |
|---|---|---|
| 7101 | 4822 209 90924 | TEA5757H/V1,RADIO IC |
| 7102 | 4822 130 60093 | 2SA838B |
| 7104 | 5322 130 44779 | BC338-40 |
| 7105 | 5322 130 44779 | BC338-40 |
| 7109 | 5322 130 41983 | BC858B |
| 7111 | 5322 130 42136 | BC848C |
| 7122 | 5322 130 42136 | BC848C |
| 7124 | 5322 130 42136 | BC848C |

NOTE: Only the parts mentioned in this list are normal service spare parts.

# MTF CASSETTE BOARD

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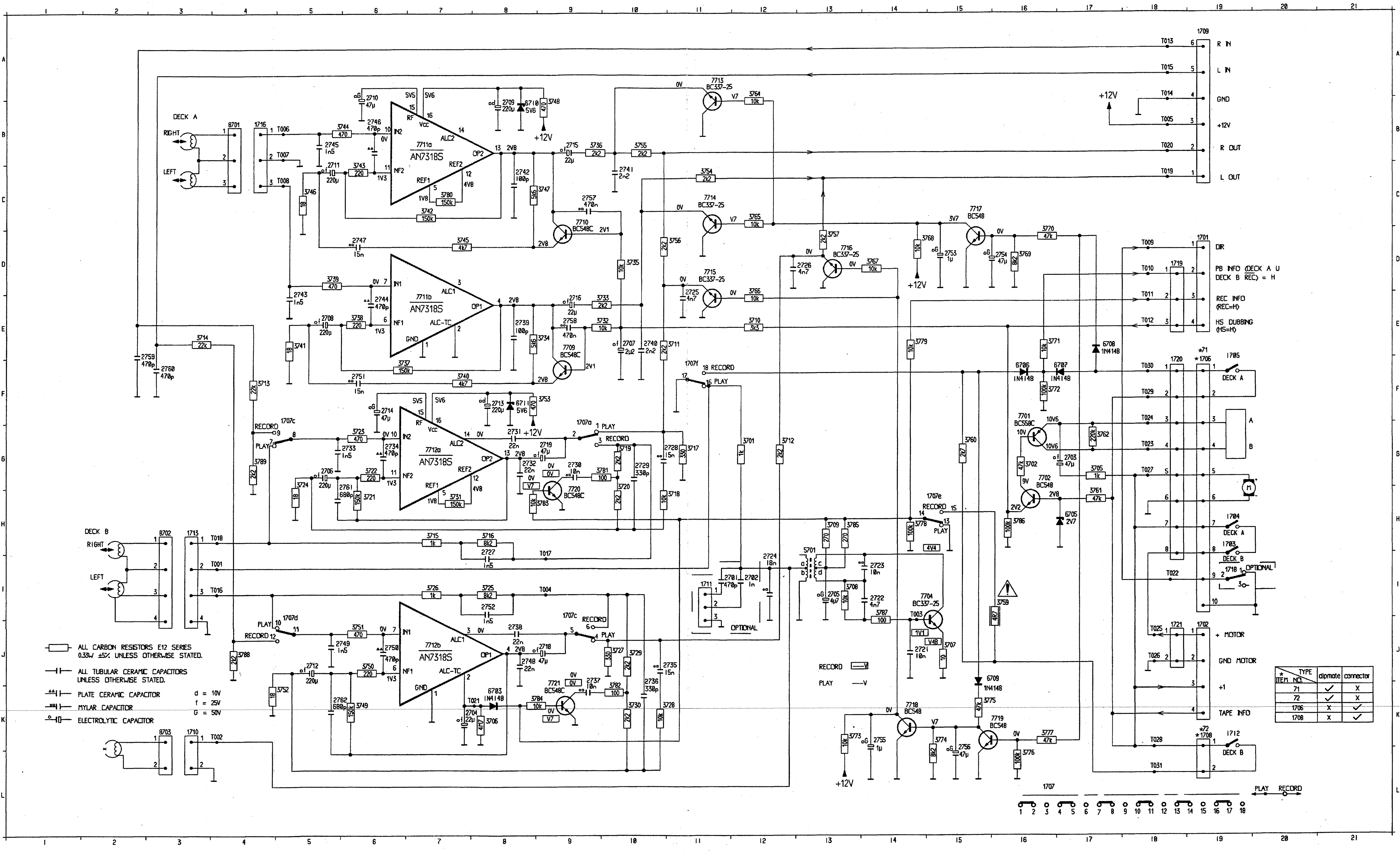
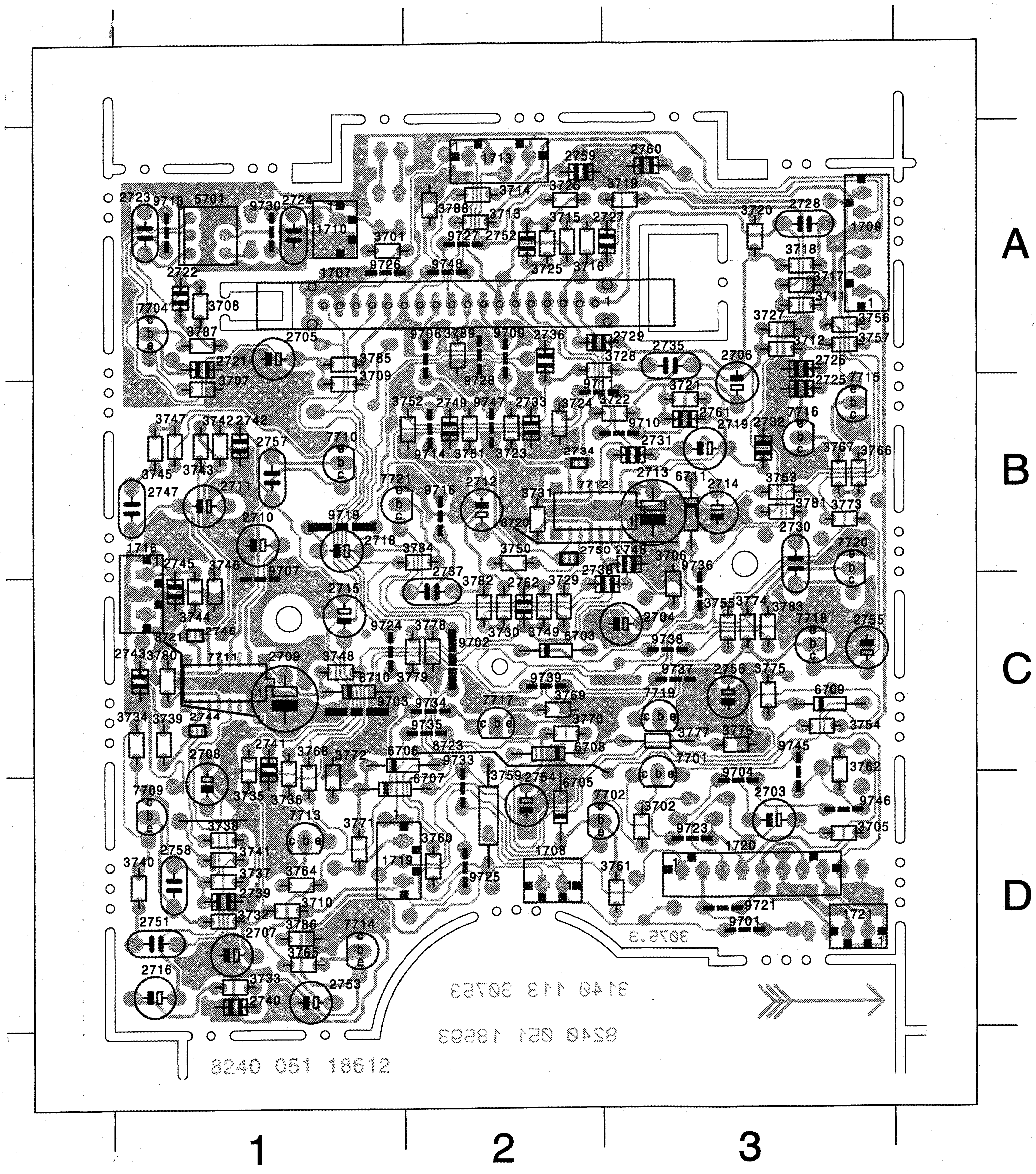
| | |
|---|---|
| 1701 | D19 |
| 1702 | J19 |
| 1703 | H19 |
| 1704 | H19 |
| 1705 | F19 |
| 1706 | F19 |
| 1707a | G 9 |
| 1707c | F 5 |
| 1707c | I 9 |
| 1707d | I 5 |
| 1707e | H15 |
| 1707f | F11 |
| 1708 | K19 |
| 1709 | A19 |
| 1710 | K 3 |
| 1711 | I11 |
| 1712 | K19 |
| 1713 | H 3 |
| 1716 | B 4 |
| 1718 | I19 |
| 1719 | D18 |
| 1720 | F18 |
| 1721 | J18 |
| 2701 | I12 |
| 2702 | I12 |
| 2703 | G17 |
| 2704 | K 8 |
| 2705 | I13 |
| 2706 | G 5 |
| 2707 | E10 |
| 2708 | E 5 |
| 2709 | B 8 |
| 2710 | A 6 |
| 2711 | C 5 |
| 2712 | J 5 |
| 2713 | F 8 |
| 2714 | F 6 |
| 2715 | B 9 |
| 2716 | E 9 |
| 2718 | J 9 |
| 2719 | G 9 |
| 2721 | J14 |
| 2722 | I14 |
| 2723 | I14 |
| 2724 | I12 |
| 2725 | E11 |
| 2726 | D13 |
| 2727 | H 8 |
| 2728 | G11 |
| 2729 | G10 |
| 2730 | G 9 |
| 2731 | G 8 |
| 2732 | G 8 |
| 2733 | G 6 |
| 2734 | G 6 |
| 2735 | J11 |
| 2736 | J10 |
| 2737 | J 9 |
| 2738 | J 8 |
| 2739 | E 8 |
| 2740 | E10 |
| 2741 | C10 |
| 2742 | C 8 |
| 2743 | E 5 |
| 2744 | E 6 |
| 2745 | B 5 |
| 2746 | B 6 |
| 2747 | D 6 |
| 2748 | J 8 |
| 2749 | J 6 |
| 2750 | J 6 |
| 2751 | F 6 |
| 2752 | I 8 |
| 2753 | D15 |
| 2754 | D16 |
| 2755 | K14 |
| 2756 | L15 |
| 2757 | C 9 |
| 2758 | E 9 |
| 2759 | E 3 |
| 2760 | F 3 |
| 2761 | G 6 |
| 2762 | K 5 |
| 3701 | G12 |
| 3702 | G16 |
| 3705 | G17 |
| 3706 | K 8 |
| 3707 | J15 |
| 3708 | I13 |
| 3709 | H13 |
| 3710 | E12 |
| 3711 | E11 |
| 3712 | G12 |
| 3713 | F 4 |
| 3714 | E 3 |
| 3715 | H 7 |
| 3716 | H 8 |
| 3717 | G11 |
| 3718 | H11 |
| 3719 | G10 |
| 3720 | G10 |
| 3721 | H 6 |
| 3722 | G 6 |
| 3723 | G 6 |
| 3724 | G 5 |
| 3725 | I 8 |
| 3726 | I 7 |
| 3727 | J10 |
| 3728 | K11 |
| 3729 | J10 |
| 3730 | K10 |
| 3731 | H 7 |
| 3732 | E10 |
| 3733 | E10 |
| 3734 | E 9 |
| 3735 | D10 |
| 3736 | B 9 |
| 3737 | F 6 |
| 3738 | E 6 |
| 3739 | D 5 |
| 3740 | F 7 |
| 3741 | E 5 |
| 3742 | C 7 |
| 3743 | C 6 |
| 3744 | B 6 |
| 3745 | D 7 |
| 3746 | C 5 |
| 3747 | C 9 |
| 3748 | B 9 |
| 3749 | K 6 |
| 3750 | J 6 |
| 3751 | J 6 |
| 3752 | K 5 |
| 3753 | F 9 |
| 3754 | C11 |
| 3755 | B10 |
| 3756 | D11 |
| 3757 | D13 |
| 3759 | I15 |
| 3760 | I15 |
| 3761 | G16 |
| 3762 | G17 |
| 3764 | A12 |
| 3765 | C12 |
| 3766 | D12 |
| 3767 | D14 |
| 3768 | D15 |
| 3769 | D16 |
| 3770 | D16 |
| 3771 | E16 |
| 3772 | F16 |
| 3773 | K13 |
| 3774 | K15 |
| 3775 | K15 |
| 3776 | L16 |
| 3777 | K16 |
| 3778 | H14 |
| 3779 | E14 |
| 3780 | C 7 |
| 3781 | G10 |
| 3782 | K10 |
| 3783 | H 9 |
| 3784 | K 9 |
| 3785 | H13 |
| 3786 | H16 |
| 3787 | I14 |
| 3788 | J 4 |
| 3789 | G 4 |
| 5701 | H13 |
| 6703 | K 8 |
| 6705 | H16 |
| 6706 | F16 |
| 6707 | F17 |
| 6708 | E17 |
| 6709 | J15 |
| 6710 | B 8 |
| 6711 | F 8 |
| 7701 | F16 |
| 7702 | G16 |
| 7704 | I14 |
| 7709 | E 9 |
| 7710 | C 9 |
| 7711a | B 7 |
| 7711b | E 7 |
| 7712a | G 7 |
| 7712b | J 7 |
| 7713 | A11 |
| 7714 | C11 |
| 7715 | D11 |
| 7716 | D13 |
| 7717 | C15 |
| 7718 | K14 |
| 7719 | K15 |
| 7720 | H 9 |
| 7721 | J 9 |
| 8701 | B 4 |
| 8702 | H 3 |
| 8703 | K 3 |
| T001 | I 3 |
| T002 | K 3 |
| T003 | I14 |
| T004 | I 9 |
| T005 | B18 |
| T006 | B 4 |
| T007 | B 4 |
| T008 | C 4 |
| T009 | D18 |
| T010 | D18 |
| T011 | E18 |
| T012 | E18 |
| T013 | A18 |
| T014 | A18 |
| T015 | A18 |
| T016 | I 3 |
| T017 | I 9 |
| T018 | H 3 |
| T019 | C18 |
| T020 | B18 |
| T021 | K 7 |
| T022 | I18 |
| T023 | G18 |
| T024 | F18 |
| T025 | J18 |
| T026 | J18 |
| T027 | G18 |
| T028 | K18 |
| T029 | F18 |
| T030 | F18 |
| T031 | L18 |


DECK A
RIGHT
LEFT
DECK B
AN7318S
7711a
7711b
7712a
7712b
R IN
L IN
GND
+12V
R OUT
L OUT
DIR
PB INFO (DECK A U DECK B REC) = H
REC INFO (REC=H)
HS DUBBING (HS=H)
RECORD
PLAY
OPTIONAL
+ MOTOR
GND MOTOR
TAPE INFO
ALL CARBON RESISTORS E12 SERIES 0.33W ±5% UNLESS OTHERWISE STATED.
ALL TUBULAR CERAMIC CAPACITORS UNLESS OTHERWISE STATED.
PLATE CERAMIC CAPACITOR
MYLAR CAPACITOR
ELECTROLYTIC CAPACITOR
d = 10V
f = 25V
G = 50V
TYPE
ITEM NO.
dipmate
connector
71
72
1706
1708
1707
PLAY RECORD



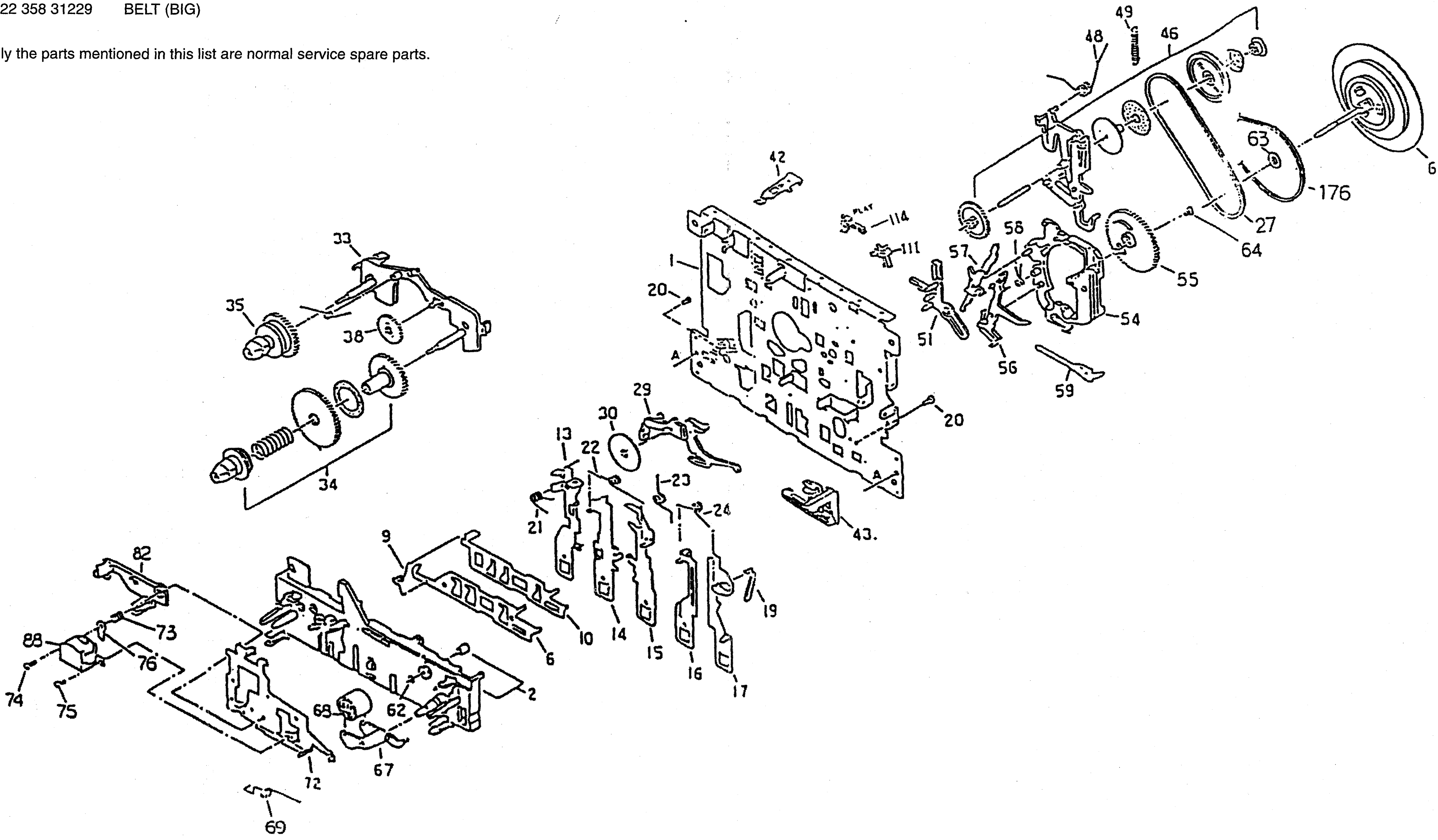
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1707 | A | 2 | 2752 | A | 2 | 3748 | C | 1 | 7713 | D | 1 |
| 1708 | D | 2 | 2753 | D | 1 | 3749 | C | 2 | 7714 | D | 1 |
| 1709 | A | 3 | 2754 | D | 2 | 3750 | B | 2 | 7715 | B | 3 |
| 1710 | A | 1 | 2755 | C | 3 | 3751 | B | 2 | 7716 | B | 3 |
| 1713 | A | 2 | 2756 | C | 3 | 3752 | B | 2 | 7717 | C | 2 |
| 1716 | C | 1 | 2757 | B | 1 | 3753 | B | 3 | 7718 | C | 3 |
| 1719 | D | 1 | 2758 | D | 1 | 3754 | C | 3 | 7719 | C | 3 |
| 1720 | D | 3 | 2759 | A | 2 | 3755 | C | 3 | 7720 | B | 3 |
| 1721 | D | 3 | 2760 | A | 3 | 3756 | A | 3 | 7721 | B | 1 |
| 2703 | D | 3 | 2761 | B | 3 | 3757 | A | 3 | 9701 | D | 3 |
| 2704 | C | 3 | 2762 | C | 2 | 3759 | D | 2 | 9702 | C | 2 |
| 2705 | A | 1 | 3701 | A | 1 | 3760 | D | 2 | 9703 | C | 1 |
| 2706 | B | 3 | 3702 | D | 3 | 3761 | D | 3 | 9704 | D | 3 |
| 2707 | D | 1 | 3705 | D | 3 | 3762 | C | 3 | 9706 | A | 2 |
| 2708 | D | 1 | 3706 | C | 3 | 3764 | D | 1 | 9707 | C | 1 |
| 2709 | C | 1 | 3707 | B | 1 | 3765 | D | 1 | 9709 | A | 2 |
| 2710 | B | 1 | 3708 | A | 1 | 3766 | B | 3 | 9710 | B | 3 |
| 2711 | B | 1 | 3709 | B | 1 | 3767 | B | 3 | 9711 | B | 2 |
| 2712 | B | 2 | 3710 | D | 1 | 3768 | D | 1 | 9714 | B | 2 |
| 2713 | B | 3 | 3711 | A | 3 | 3769 | C | 2 | 9716 | B | 2 |
| 2714 | B | 3 | 3712 | A | 3 | 3770 | C | 2 | 9718 | A | 1 |
| 2715 | C | 1 | 3713 | A | 2 | 3771 | D | 1 | 9719 | B | 1 |
| 2716 | D | 1 | 3714 | A | 2 | 3772 | D | 1 | 9721 | D | 3 |
| 2718 | B | 1 | 3715 | A | 2 | 3773 | B | 3 | 9723 | D | 3 |
| 2719 | B | 3 | 3716 | A | 2 | 3774 | C | 3 | 9724 | C | 1 |
| 2721 | A | 1 | 3717 | A | 3 | 3775 | C | 3 | 9725 | D | 2 |
| 2722 | A | 1 | 3718 | A | 3 | 3776 | C | 3 | 9726 | A | 1 |
| 2723 | A | 1 | 3719 | A | 3 | 3777 | C | 3 | 9727 | A | 2 |
| 2724 | A | 1 | 3720 | A | 3 | 3778 | C | 2 | 9728 | A | 2 |
| 2725 | B | 3 | 3721 | B | 3 | 3779 | C | 2 | 9730 | A | 1 |
| 2726 | A | 3 | 3722 | B | 3 | 3780 | C | 1 | 9733 | D | 2 |
| 2727 | A | 3 | 3723 | B | 2 | 3781 | B | 3 | 9734 | C | 2 |
| 2728 | A | 3 | 3724 | B | 2 | 3782 | C | 2 | 9735 | C | 2 |
| 2729 | A | 2 | 3725 | A | 2 | 3783 | C | 3 | 9736 | C | 3 |
| 2730 | B | 3 | 3726 | A | 2 | 3784 | B | 2 | 9737 | C | 3 |
| 2731 | B | 3 | 3727 | A | 3 | 3785 | A | 1 | 9738 | C | 3 |
| 2732 | B | 3 | 3728 | A | 2 | 3786 | D | 1 | 9739 | C | 2 |
| 2733 | B | 2 | 3729 | C | 2 | 3787 | A | 1 | 9745 | D | 3 |
| 2734 | B | 2 | 3730 | C | 2 | 3788 | A | 2 | 9746 | D | 3 |
| 2735 | A | 3 | 3731 | B | 2 | 3789 | A | 2 | 9747 | B | 2 |
| 2736 | A | 2 | 3732 | D | 1 | 5701 | A | 1 | 9748 | A | 2 |
| 2737 | C | 2 | 3733 | D | 1 | 6703 | C | 2 | 8720 | B | 2 |
| 2738 | C | 3 | 3734 | C | 1 | 6705 | D | 2 | 8721 | C | 1 |
| 2739 | D | 1 | 3735 | C | 1 | 6706 | C | 1 | 8723 | C | 2 |
| 2740 | D | 1 | 3736 | C | 1 | 6707 | D | 1 | | | |
| 2741 | C | 1 | 3737 | D | 1 | 6708 | C | 2 | | | |
| 2742 | B | 1 | 3738 | D | 1 | 6709 | C | 3 | | | |
| 2743 | C | 1 | 3739 | C | 1 | 6710 | C | 1 | | | |
| 2744 | C | 1 | 3740 | D | 1 | 6711 | B | 3 | | | |
| 2745 | C | 1 | 3741 | D | 1 | 7701 | D | 3 | | | |
| 2746 | C | 1 | 3742 | B | 1 | 7702 | D | 2 | | | |
| 2747 | B | 1 | 3743 | B | 1 | 7704 | A | 1 | | | |
| 2748 | B | 3 | 3744 | C | 1 | 7709 | D | 1 | | | |
| 2749 | B | 2 | 3745 | B | 1 | 7710 | B | 1 | | | |
| 2750 | B | 2 | 3746 | C | 1 | 7711 | C | 1 | | | |
| 2751 | D | 1 | 3747 | B | 1 | 7712 | B | 2 | | | |

## Exploded View-Play(Mech A)Mechanism

MECHANISM A - PLAYBACK DECK

| | | |
|---|---|---|
| 27 | 4822 358 31231 | BELT DRIVING |
| 43 | 4822 403 30811 | LEVER EJECT |
| 67 | 4822 402 61418 | ARM PINCH |
| 68 | 4822 528 70785 | ROLLER PINCH |
| 88 | 4822 249 10425 | R/P HEAD |
| 111 | 4822 278 90752 | LEAF SWITCH |
| 114 | 4822 278 90751 | LEAF SWITCH |
| 176 | 4822 358 31229 | BELT (BIG) |

Note : Only the parts mentioned in this list are normal service spare parts.

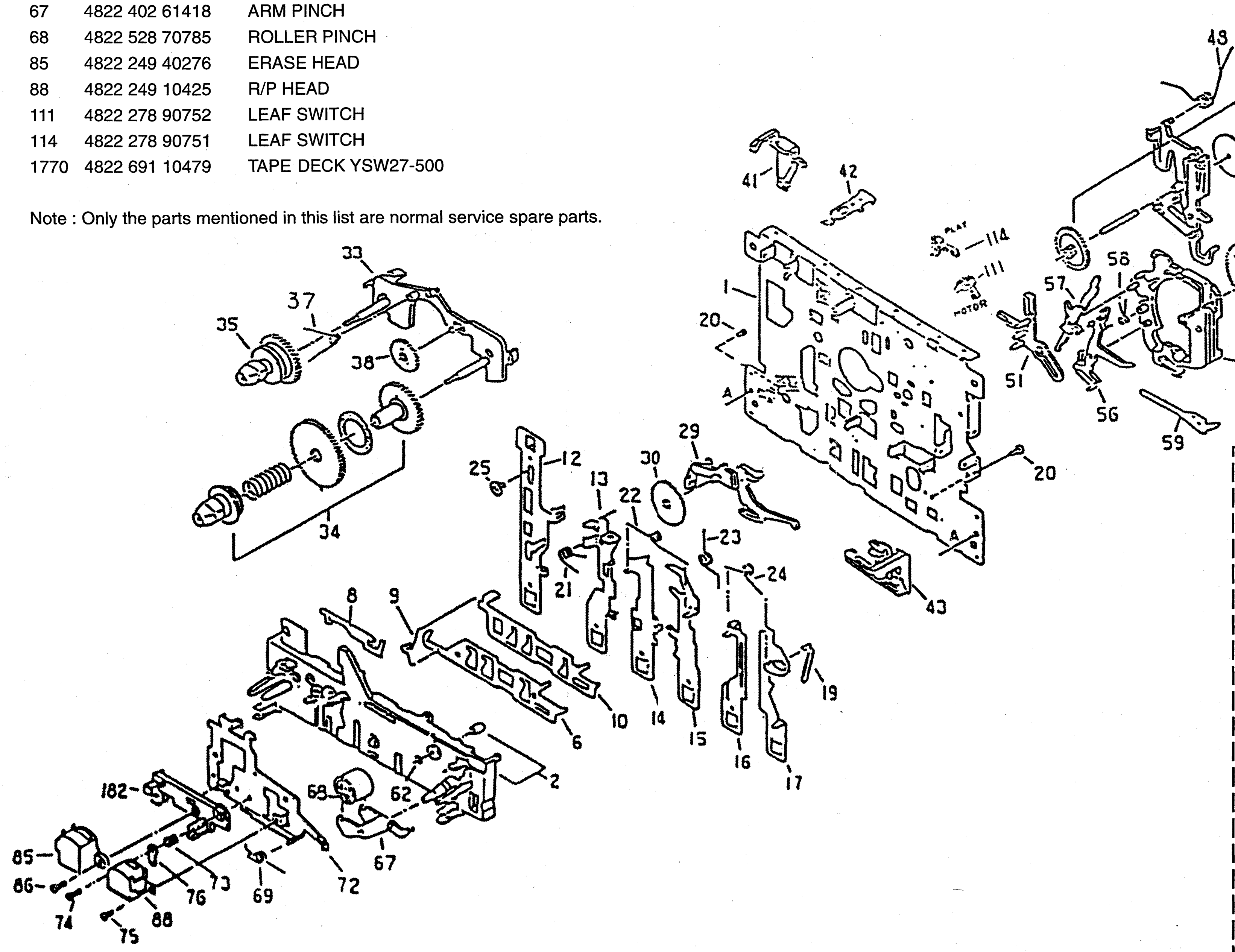

49
48
46
63
61
176
27
64
55
54
58
57
51
56
59
42
114
111
1
20
A
20
A
43.
29
30
13
22
23
24
21
33
35
38
34
9
10
14
15
16
17
19
82
73
88
76
74
75
6
2
62
68
67
72
69

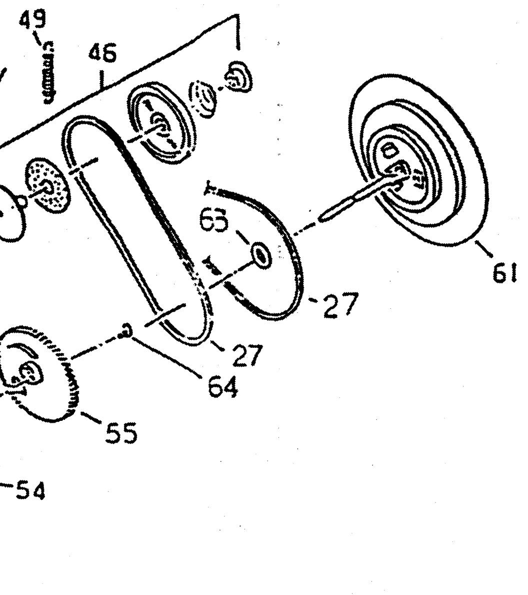
## Exploded View-Rec/PB(Mech B)Mechanism & Motor Assy

MECHANISM B - PLAYBACK DECK

| | | |
|---|---|---|
| 27 | 4822 358 31231 | BELT DRIVING |
| 43 | 4822 403 30811 | LEVER EJECT |
| 67 | 4822 402 61418 | ARM PINCH |
| 68 | 4822 528 70785 | ROLLER PINCH |
| 85 | 4822 249 40276 | ERASE HEAD |
| 88 | 4822 249 10425 | R/P HEAD |
| 111 | 4822 278 90752 | LEAF SWITCH |
| 114 | 4822 278 90751 | LEAF SWITCH |
| 1770 | 4822 691 10479 | TAPE DECK YSW27-500 |

Note : Only the parts mentioned in this list are normal service spare parts.

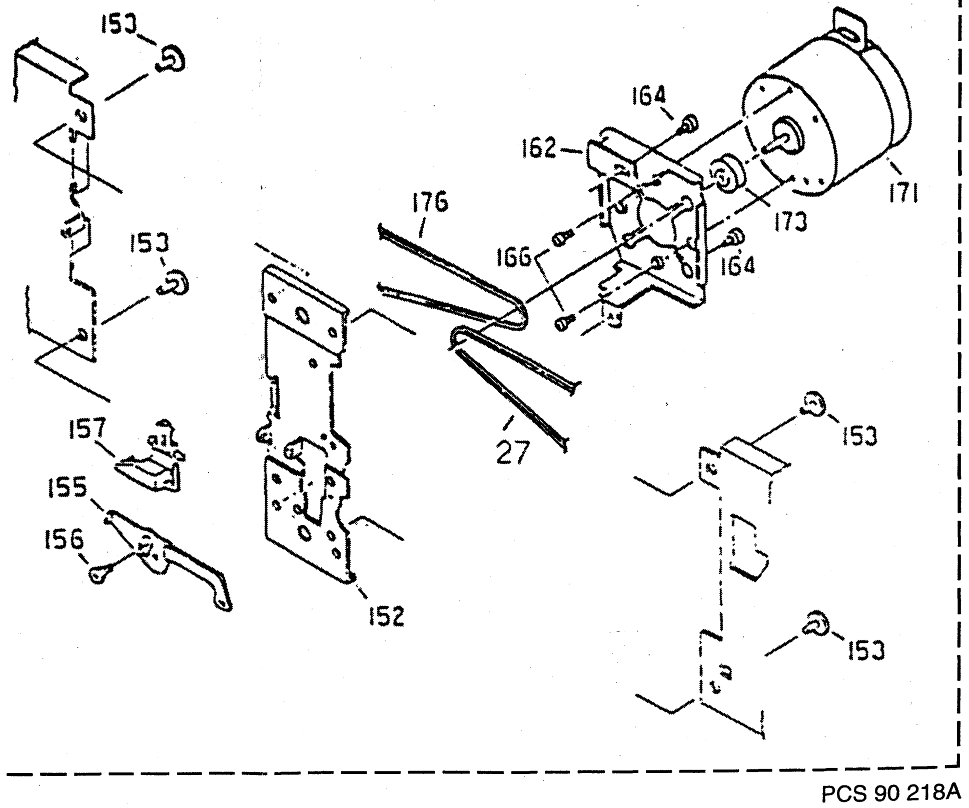

33
37
35
38
34
25
12
13
22
30
29
21
23
24
1
20
A
A
20
41
42
114
111
PLAY
MOTOR
51
56
57
58
43
8
9
10
14
15
16
17
19
6
2
182
68
62
67
72
69
73
76
85
86
74
75
88


49
48
46
61
63
27
27
64
55
54
59

**MOTOR ASSY**

| | | |
|---|---|---|
| 171 | 4822 361 21585 | MOTOR |
| 173 | 4822 528 81482 | MOTOR PULLEY |
| 176 | 4822 358 31229 | BELT |

Note : Only the parts mentioned in this list are normal service spare parts.


153
153
164
162
171
173
176
166
164
27
153
157
155
156
152
153

PCS 90 218A

## ELECTRICAL PARTSLIST - MTF CASSETTE BOARD

### CAPACITORS

| | | |
|---|---|---|
| 2703 | 4822 124 41397 | 47µF 20% 25V |
| 2704 | 4822 124 41596 | 22µF 20% 50V |
| 2705 | 4822 124 40246 | 4.7µF 20% 63V |
| 2706 | 4822 124 40181 | 220µF 20% 10V |
| 2707 | 4822 124 41576 | 2.2µF 20% 50V |
| 2708 | 4822 124 40181 | 220µF 20% 10V |
| 2709 | 4822 124 80144 | 220µF 20% 25V |
| 2710 | 4822 124 41397 | 47µF 20% 25V |
| 2711 | 4822 124 40181 | 220µF 20% 10V |
| 2712 | 4822 124 40181 | 220µF 20% 10V |
| 2713 | 4822 124 80144 | 220µF 20% 25V |
| 2714 | 4822 124 41397 | 47µF 20% 25V |
| 2715 | 4822 124 41596 | 22µF 20% 50V |
| 2716 | 4822 124 41596 | 22µF 20% 50V |
| 2718 | 4822 124 41397 | 47µF 20% 25V |
| 2719 | 4822 124 41397 | 47µF 20% 25V |
| 2721 | 4822 121 51387 | 10nF 20% 16V |
| 2722 | 4822 126 11714 | 4.7nF 20% 50V |
| 2723 | 4822 121 51304 | 10nF 10% 50V |
| 2724 | 4822 121 51306 | 18nF 10% 50V |
| 2725 | 4822 126 11714 | 4.7nF 20% 16V |
| 2726 | 4822 126 11714 | 4.7nF 20% 16V |
| 2727 | 4822 126 12878 | 1.5nF 10% 50V |
| 2728 | 4822 121 51305 | 15nF 10% 50V |
| 2729 | 4822 126 12787 | 330pF 10% 50V |
| 2730 | 4822 121 51304 | 10nF 10% 50V |
| 2731 | 4822 126 11585 | 22nF +80-20% 25V |
| 2732 | 4822 126 11585 | 22nF +80-20% 25V |
| 2733 | 4822 126 12878 | 1.5nF 10% 16V |
| 2734 | 5322 122 32311 | 470pF 10% 100V |
| 2735 | 4822 121 51305 | 15nF 10% 50V |
| 2736 | 4822 126 12787 | 330pF 10% 50V |
| 2737 | 4822 121 51304 | 10nF 10% 50V |
| 2738 | 4822 126 11585 | 22nF +80-20% 25V |
| 2739 | 4822 122 33195 | 100pF 10% 50V |
| 2740 | 4822 126 12339 | 2.2nF 20% |
| 2741 | 4822 126 12339 | 2.2nF 20% |
| 2742 | 4822 122 33195 | 100pF 10% 50V |
| 2743 | 4822 126 12878 | 1.5nF 10% 16V |
| 2744 | 5322 122 32311 | 470pF 10% 100V |
| 2745 | 4822 126 12878 | 1.5nF 10% 16V |
| 2746 | 5322 122 32311 | 470pF 10% 100V |
| 2747 | 4822 121 51305 | 15nF 10% 50V |
| 2748 | 4822 126 11585 | 22nF +80-20% 25V |
| 2749 | 4822 126 12878 | 1.5nF 10% 16V |
| 2750 | 5322 122 32311 | 470pF 10% 100V |
| 2751 | 4822 121 51305 | 15nF 10% 50V |
| 2752 | 4822 126 12878 | 1.5nF 10% 50V |
| 2753 | 4822 124 40242 | 1µF 20% 63V |
| 2754 | 4822 124 41397 | 47µF 20% 25V |
| 2755 | 4822 124 40242 | 1µF 20% 63V |
| 2756 | 4822 124 41397 | 47µF 20% 25V |
| 2757 | 4822 121 51252 | 470nF 5% 63V |
| 2758 | 4822 121 51252 | 470nF 5% 63V |
| 2759 | 4822 122 33519 | 470pF 10% 50V |
| 2760 | 4822 122 33519 | 470pF 10% 50V |
| 2761 | 4822 122 33169 | 680pF 10% 50V |
| 2762 | 4822 122 33169 | 680pF 10% 50V |

### RESISTORS

| | | |
|---|---|---|
| 3701 | 4822 116 83863 | 1k 5% 0.5W |
| 3702 | 4822 116 52284 | 47k 5% 0.5W |
| 3705 | 4822 116 83863 | 1k 5% 0.5W |
| 3706 | 4822 111 30893 | 4M7 5% 0.2W |
| 3707 | 4822 116 52176 | 10Ω 5% 0.5W |
| 3708 | 4822 116 83864 | 10k 5% 0.5W |
| 3709 | 4822 116 52217 | 270Ω 5% 0.5W |
| 3710 | 4822 116 52269 | 3k3 5% 0.5W |
| 3711 | 4822 116 52256 | 2k2 5% 0.5W |
| 3712 | 4822 116 52256 | 2k2 5% 0.5W |
| 3713 | 4822 116 52257 | 22k 5% 0.5W |
| 3714 | 4822 116 52257 | 22k 5% 0.5W |
| 3715 | 4822 116 52256 | 2k2 5% 0.5W |
| 3716 | 4822 116 52303 | 8k2 5% 0.5W |
| 3718 | 4822 116 83864 | 10k 5% 0.5W |
| 3719 | 4822 116 52256 | 2k2 5% 0.5W |
| 3720 | 4822 116 52256 | 2k2 5% 0.5W |
| 3721 | 4822 116 52245 | 150k 5% 0.5W |
| 3722 | 4822 116 52215 | 220Ω 5% 0.5W |
| 3723 | 4822 116 52224 | 470Ω 5% 0.5W |
| 3724 | 4822 116 52184 | 18Ω 5% 0.5W |
| 3725 | 4822 116 52303 | 8k2 5% 0.5W |
| 3726 | 4822 116 83863 | 1k 5% 0.5W |
| 3727 | 4822 116 52219 | 330Ω 5% 0.5W |
| 3728 | 4822 116 83864 | 10k 5% 0.5W |
| 3729 | 4822 116 52256 | 2k2 5% 0.5W |
| 3730 | 4822 116 52256 | 2k2 5% 0.5W |
| 3734 | 4822 116 52289 | 5k6 5% 0.5W |
| 3731 | 4822 116 52245 | 150k 5% 0.5W |
| 3732 | 4822 116 83864 | 10k 5% 0.5W |
| 3733 | 4822 116 52256 | 2k2 5% 0.5W |
| 3735 | 4822 116 83864 | 10k 5% 0.5W |
| 3736 | 4822 116 52256 | 2k2 5% 0.5W |
| 3737 | 4822 116 52245 | 150k 5% 0.5W |
| 3738 | 4822 116 52215 | 220Ω 5% 0.5W |
| 3739 | 4822 116 52224 | 470Ω 5% 0.5W |
| 3740 | 4822 116 52283 | 4k7 5% 0.5W |
| 3741 | 4822 116 52184 | 18Ω 5% 0.5W |
| 3742 | 4822 116 52245 | 150k 5% 0.5W |
| 3743 | 4822 116 52215 | 220Ω 5% 0.5W |
| 3744 | 4822 116 52224 | 470Ω 5% 0.5W |
| 3745 | 4822 116 52283 | 4k7 5% 0.5W |
| 3746 | 4822 116 52184 | 18Ω 5% 0.5W |
| 3747 | 4822 116 52289 | 5k6 5% 0.5W |
| 3748 | 4822 116 52224 | 470Ω 5% 0.5W |
| 3749 | 4822 116 52245 | 150k 5% 0.5W |
| 3750 | 4822 116 52215 | 220Ω 5% 0.5W |
| 3751 | 4822 116 52224 | 470Ω 5% 0.5W |
| 3752 | 4822 116 52184 | 18Ω 5% 0.5W |
| 3753 | 4822 116 52224 | 470Ω 5% 0.5W |

## ELECTRICAL PARTSLIST - MTF CASSETTE BOARD

| | | |
|---|---|---|
| 3754 | 4822 116 52256 | 2k2 5% 0.5W |
| 3755 | 4822 116 52256 | 2k2 5% 0.5W |
| 3756 | 4822 116 52256 | 2k2 5% 0.5W |
| 3757 | 4822 116 52256 | 2k2 5% 0.5W |
| 3759 | 4822 052 10478 | 4Ω7 5% 0.33W |
| 3760 | 4822 116 52263 | 2k7 5% 0.5W |
| 3761 | 4822 116 52284 | 47k 5% 0.5W |
| 3762 | 4822 116 83874 | 220k 5% 0.5W |
| 3764 | 4822 116 83864 | 10k 5% 0.5W |
| 3765 | 4822 116 83864 | 10k 5% 0.5W |
| 3766 | 4822 116 83864 | 10k 5% 0.5W |
| 3767 | 4822 116 83864 | 10k 5% 0.5W |
| 3768 | 4822 116 83864 | 10k 5% 0.5W |
| 3769 | 4822 116 52303 | 8k2 5% 0.5W |
| 3770 | 4822 116 52284 | 47k 5% 0.5W |
| 3771 | 4822 116 83864 | 10k 5% 0.5W |
| 3772 | 4822 116 52234 | 100k 5% 0.5W |
| 3773 | 4822 116 83864 | 10k 5% 0.5W |
| 3774 | 4822 116 52303 | 8k2 5% 0.5W |
| 3775 | 4822 116 52284 | 47k 5% 0.5W |
| 3776 | 4822 116 52234 | 100k 5% 0.5W |
| 3777 | 4822 116 52284 | 47k 5% 0.5W |
| 3778 | 4822 116 52234 | 100k 5% 0.5W |
| 3779 | 4822 116 83864 | 10k 5% 0.5W |
| 3780 | 4822 116 52245 | 150k 5% 0.5W |
| 3781 | 4822 116 52175 | 100Ω 5% 0.5W |
| 3782 | 4822 116 52175 | 100Ω 5% 0.5W |
| 3783 | 4822 116 83864 | 10k 5% 0.5W |
| 3784 | 4822 116 83864 | 10k 5% 0.5W |
| 3785 | 4822 116 52217 | 270Ω 5% 0.5W |
| 3786 | 4822 116 52234 | 100k 5% 0.5W |
| 3787 | 4822 116 52175 | 100Ω 5% 0.5W |
| 3788 | 4822 116 52256 | 2k2 5% 0.5W |
| 3789 | 4822 116 52256 | 2k2 5% 0.5W |

### COIL

| | | |
|---|---|---|
| 5701 | 4822 157 10371 | 100KHZ OSC COIL |

### DIODES

| | | |
|---|---|---|
| 6703 | 4822 130 30621 | 1N4148 |
| 6705 | 5322 130 34563 | BZX79-C2V7 |
| 6706 | 4822 130 30621 | 1N4148 |
| 6708 | 4822 130 30621 | 1N4148 |
| 6707 | 4822 130 30621 | 1N4148 |
| 6709 | 4822 130 30621 | 1N4148 |
| 6710 | 4822 130 34173 | BZX79-C5V6 |
| 6711 | 4822 130 34173 | BZX79-C5V6 |

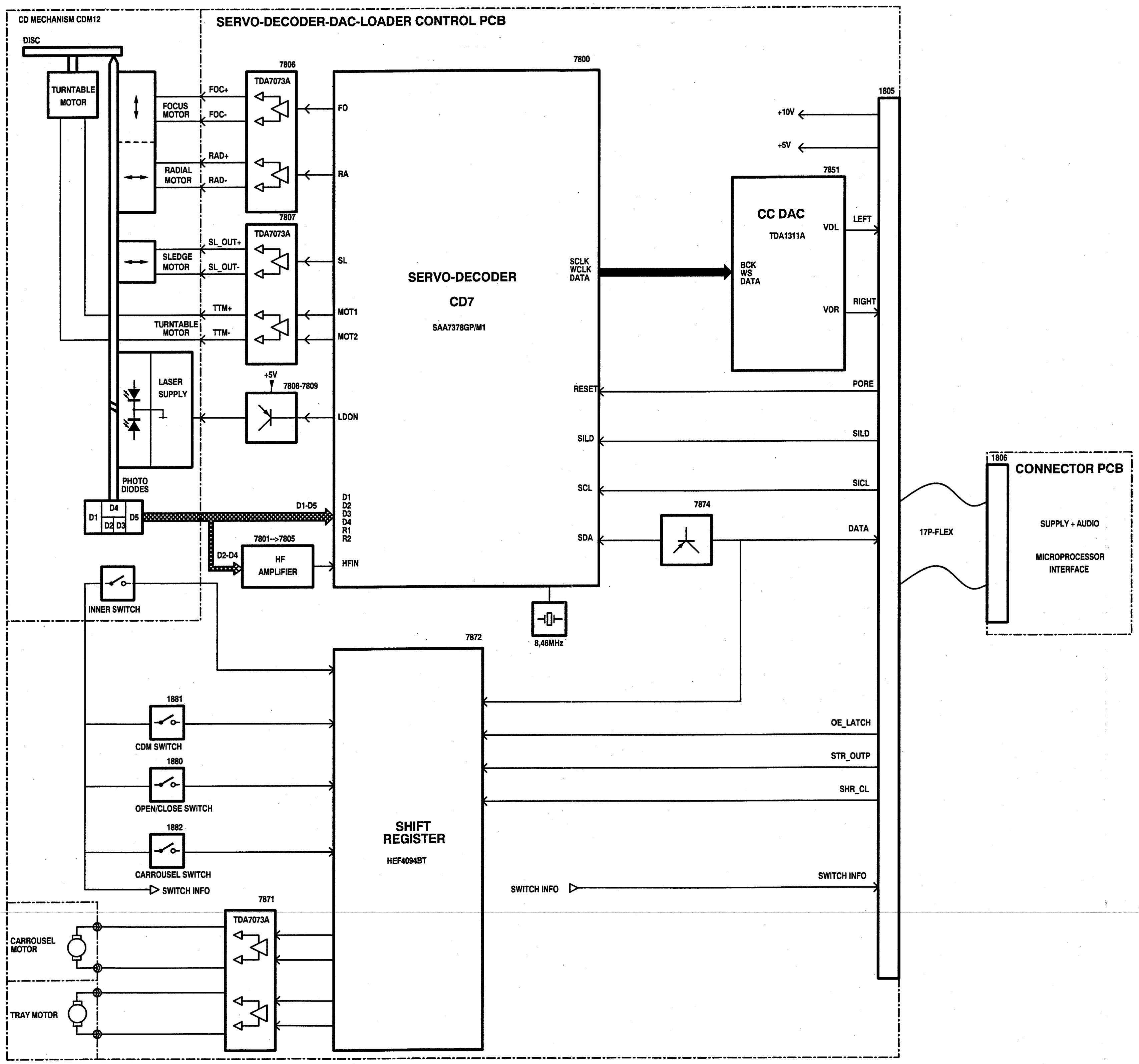
### TRANSISTORS

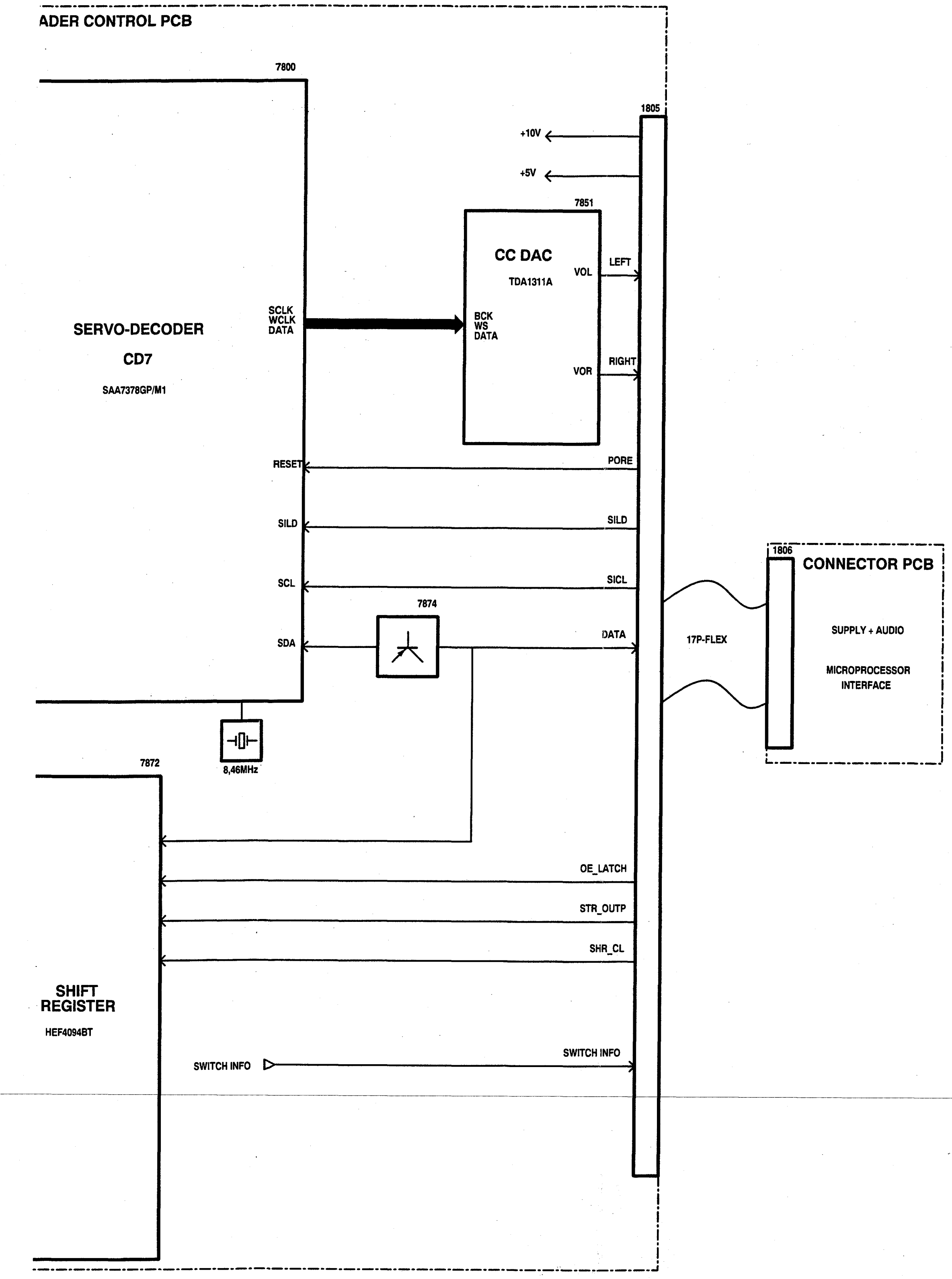
| | | |
|---|---|---|
| 7701 | 4822 130 42231 | BC557C |
| 7702 | 4822 130 40938 | BC548 |
| 7704 | 4822 130 40981 | BC337-25 |
| 7709 | 4822 130 44503 | BC547C |
| 7710 | 4822 130 44503 | BC547C |
| 7711 | 4822 209 32918 | AN7318S |
| 7712 | 4822 209 32918 | AN7318S |
| 7713 | 4822 130 40981 | BC337-25 |
| 7714 | 4822 130 40981 | BC337-25 |
| 7715 | 4822 130 40981 | BC337-25 |
| 7716 | 4822 130 40981 | BC337-25 |
| 7717 | 4822 130 40938 | BC548 |
| 7718 | 4822 130 40959 | BC547B |
| 7719 | 4822 130 40959 | BC547B |
| 7720 | 4822 130 44503 | BC547C |
| 7721 | 4822 130 44503 | BC547C |

Note : Only the parts mentioned in this list are normal service spare parts.

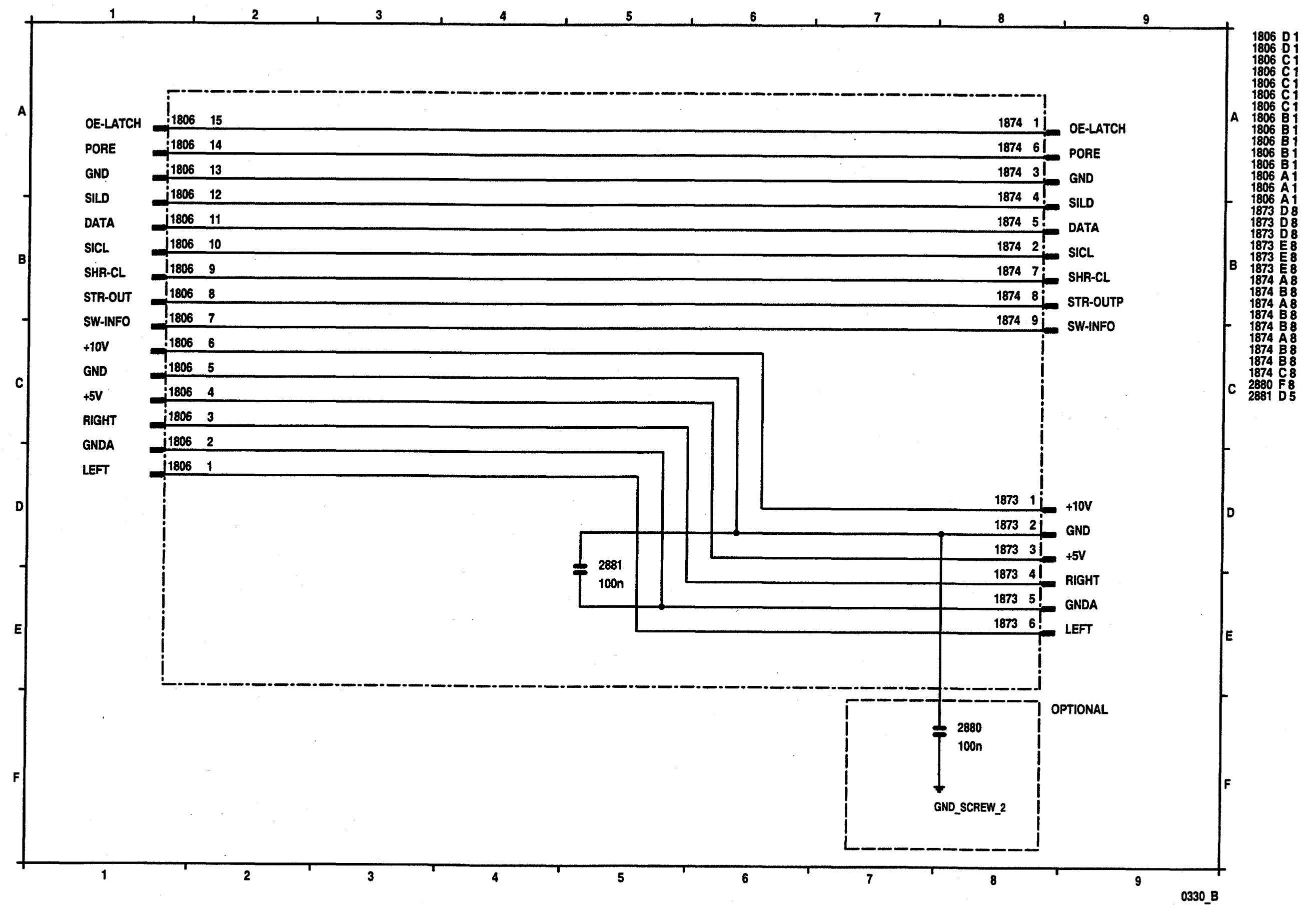
CONN

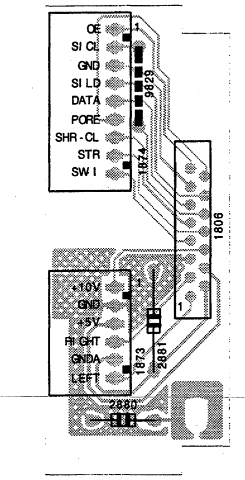
## BLOCK DIAGRAM


CD MECHANISM CDM12
DISC
TURNTABLE MOTOR
FOCUS MOTOR
RADIAL MOTOR
SLEDGE MOTOR
TURNTABLE MOTOR
LASER SUPPLY
PHOTO DIODES
D1
D2
D3
D4
D5
INNER SWITCH
SERVO-DECODER-DAC-LOADER CONTROL PCB
FOC+
FOC-
RAD+
RAD-
SL_OUT+
SL_OUT-
TTM+
TTM-
7806
TDA7073A
7807
TDA7073A
+5V
7808-7809
D1-D5
D2-D4
7801-->7805
HF AMPLIFIER
7800
FO
RA
SL
MOT1
MOT2
LDON
D1 D2 D3 D4 R1 R2
HFIN
SERVO-DECODER
CD7
SAA7378GP/M1
SCLK WCLK DATA
RESET
SILD
SCL
SDA
8,46MHz
+10V
+5V
7851
CC DAC
TDA1311A
BCK WS DATA
VOL
VOR
LEFT
RIGHT
PORE
SILD
SICL
DATA
7874
1805
17P-FLEX
1806
CONNECTOR PCB
SUPPLY + AUDIO
MICROPROCESSOR INTERFACE
7872
SHIFT REGISTER
HEF4094BT
1881
CDM SWITCH
1880
OPEN/CLOSE SWITCH
1882
CARROUSEL SWITCH
SWITCH INFO
OE_LATCH
STR_OUTP
SHR_CL
SWITCH INFO
SWITCH INFO
7871
TDA7073A
CARROUSEL MOTOR
TRAY MOTOR

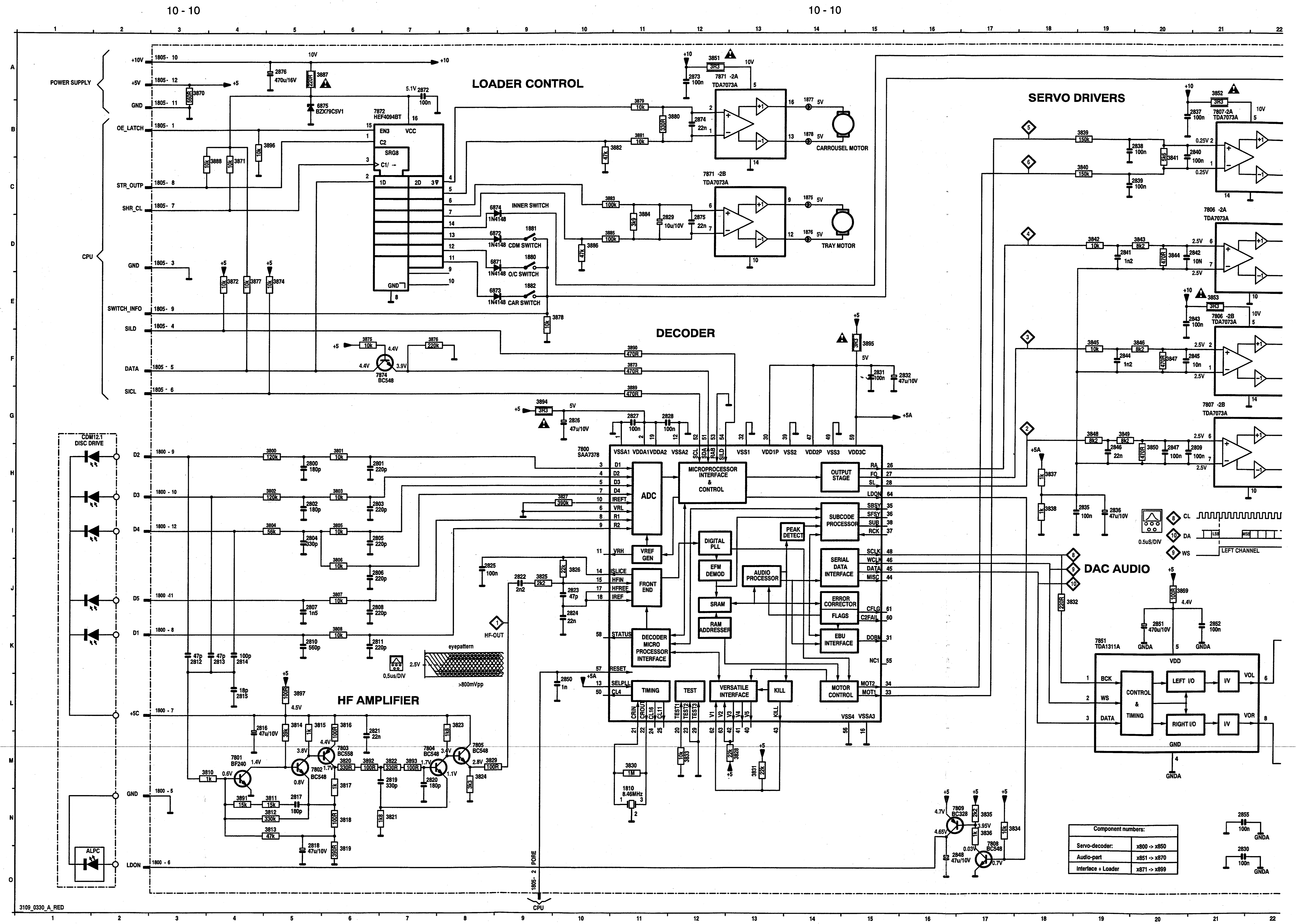

ADER CONTROL PCB
7800
SERVO-DECODER
CD7
SAA7378GP/M1
SCLK
WCLK
DATA
RESET
SILD
SCL
SDA
8,46MHz
7851
CC DAC
TDA1311A
BCK
WS
DATA
VOL
VOR
LEFT
RIGHT
+10V
+5V
1805
PORE
SILD
SICL
DATA
7874
7872
SHIFT
REGISTER
HEF4094BT
OE_LATCH
STR_OUTP
SHR_CL
SWITCH INFO
SWITCH INFO
17P-FLEX
1806
CONNECTOR PCB
SUPPLY + AUDIO
MICROPROCESSOR
INTERFACE

## CONNECTOR WIRING AND LAYOUT

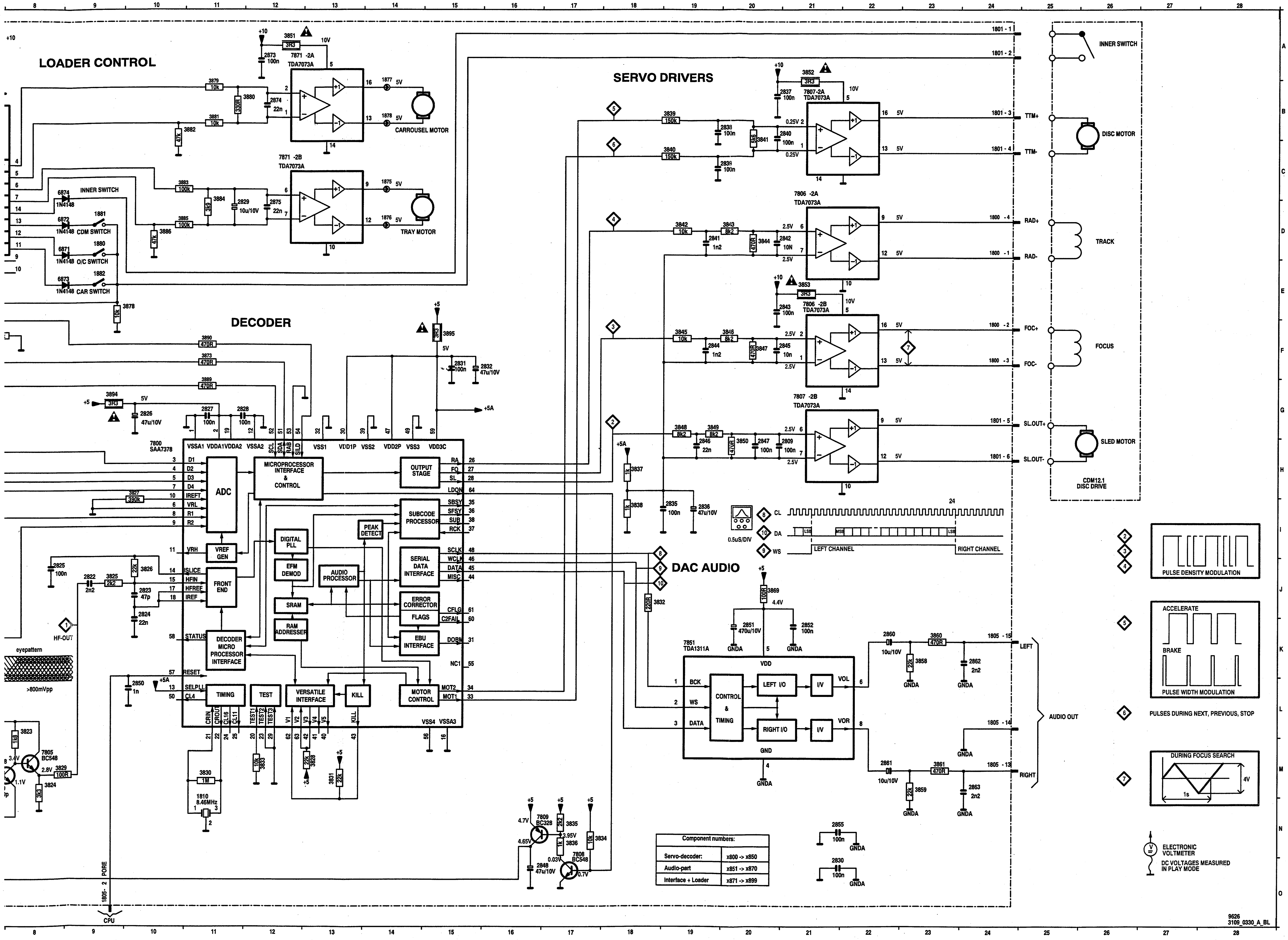

1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
OE-LATCH
PORE
GND
SILD
DATA
SICL
SHR-CL
STR-OUT
SW-INFO
+10V
GND
+5V
RIGHT
GNDA
LEFT
1806 15
1806 14
1806 13
1806 12
1806 11
1806 10
1806 9
1806 8
1806 7
1806 6
1806 5
1806 4
1806 3
1806 2
1806 1
1874 1
1874 6
1874 3
1874 4
1874 5
1874 2
1874 7
1874 8
1874 9
OE-LATCH
PORE
GND
SILD
DATA
SICL
SHR-CL
STR-OUTP
SW-INFO
1873 1
1873 2
1873 3
1873 4
1873 5
1873 6
+10V
GND
+5V
RIGHT
GNDA
LEFT
2881
100n
OPTIONAL
2880
100n
GND_SCREW_2
0330_B
1806 D 1
1806 D 1
1806 C 1
1806 C 1
1806 C 1
1806 C 1
1806 C 1
1806 B 1
1806 B 1
1806 B 1
1806 B 1
1806 B 1
1806 A 1
1806 A 1
1806 A 1
1873 D 8
1873 D 8
1873 D 8
1873 E 8
1873 E 8
1873 E 8
1874 A 8
1874 B 8
1874 A 8
1874 B 8
1874 B 8
1874 A 8
1874 B 8
1874 B 8
1874 C 8
2880 F 8
2881 D 5


OE
SI CL
GND
SI LD
DATA
PORE
SHR - CL
STR
SW I
1
9829
1874
1806
1
+10V
GND
+5V
RIGHT
GNDA
LEFT
1
1873
2881
2880

# CDC CIRCUIT


10 - 10
10 - 10
LOADER CONTROL
SERVO DRIVERS
DECODER
HF AMPLIFIER
DAC AUDIO
POWER SUPPLY
CPU
+10V
+5V
GND
OE_LATCH
STR_OUTP
SHR_CL
SWITCH_INFO
SILD
DATA
SICL
CDM12.1
DISC DRIVE
D2
D3
D4
D5
D1
+5C
LDON
ALPC
7872
HEF4094BT
SRG8
7871 -2A
TDA7073A
7871 -2B
TDA7073A
CARROUSEL MOTOR
TRAY MOTOR
INNER SWITCH
CDM SWITCH
O/C SWITCH
CAR SWITCH
6875
BZX79C5V1
7874
BC548
7800
SAA7378
ADC
VREF GEN
FRONT END
MICROPROCESSOR INTERFACE & CONTROL
OUTPUT STAGE
SUBCODE PROCESSOR
PEAK DETECT
DIGITAL PLL
EFM DEMOD
AUDIO PROCESSOR
SERIAL DATA INTERFACE
SRAM
RAM ADDRESSER
ERROR CORRECTOR
FLAGS
EBU INTERFACE
DECODER MICRO PROCESSOR INTERFACE
TIMING
TEST
VERSATILE INTERFACE
KILL
MOTOR CONTROL
1810
8.46MHz
HF-OUT
eyepattern
2.5V
0.5us/DIV
>800mVpp
7801
BF240
7802
BC548
7803
BC558
7804
BC548
7805
BC548
7806 -2A
TDA7073A
7806 -2B
TDA7073A
7807-2A
TDA7073A
7807 -2B
TDA7073A
CL
DA
WS
LEFT CHANNEL
7851
TDA1311A
BCK
CONTROL & TIMING
LEFT I/O
RIGHT I/O
VOL
VOR
VDD
GND
GNDA
7809
BC328
7808
BC548
1805 - 2 PORE
CPU
3109_0330_A_RED

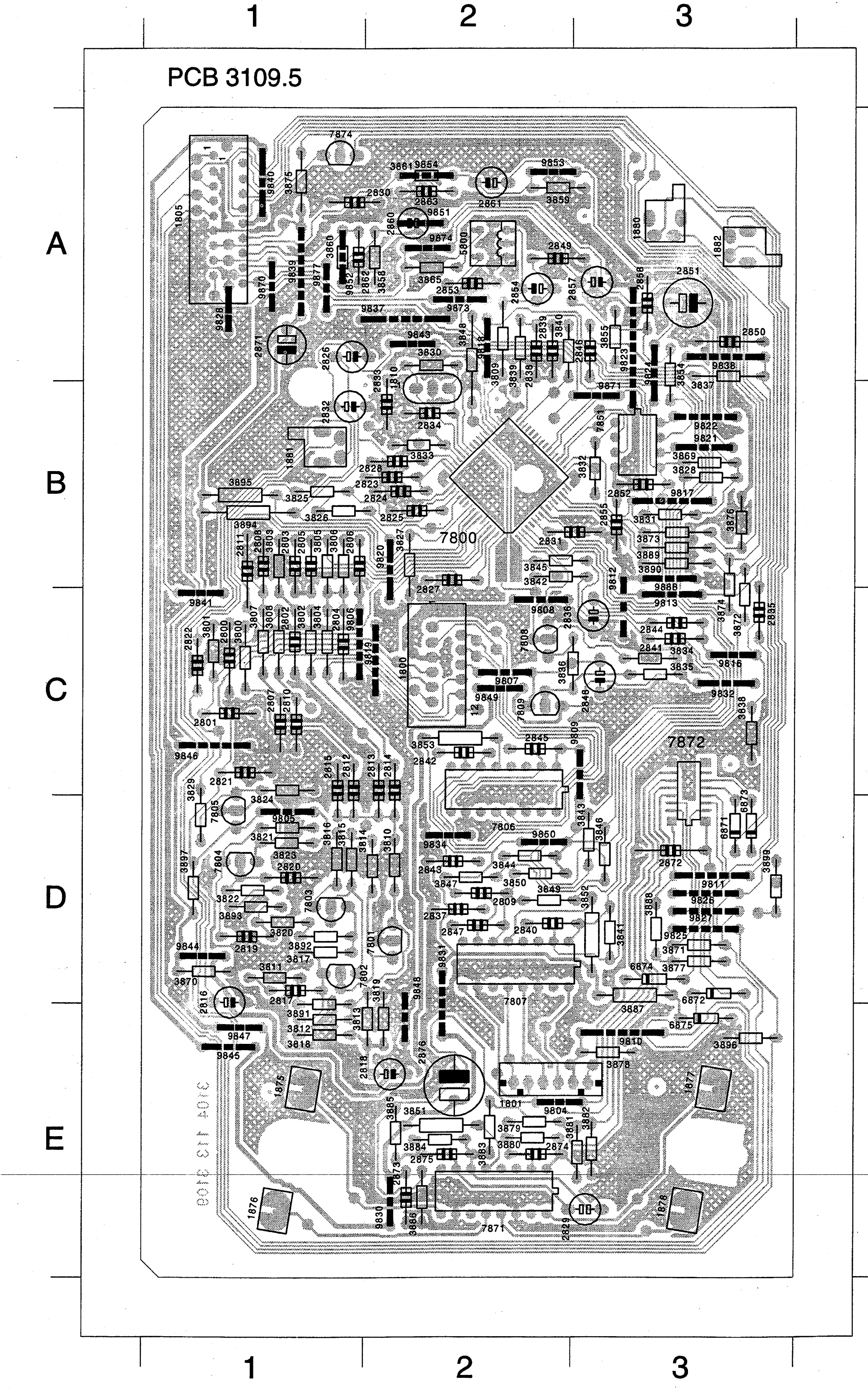
| Component numbers: | |
|---|---|
| Servo-decoder: | x800 -> x850 |
| Audio-part: | x851 -> x870 |
| Interface + Loader: | x871 -> x899 |


LOADER CONTROL
7871 -2A TDA7073A
7871 -2B TDA7073A
CARROUSEL MOTOR
TRAY MOTOR
INNER SWITCH
CDM SWITCH
O/C SWITCH
CAR SWITCH
SERVO DRIVERS
7807-2A TDA7073A
7806 -2A TDA7073A
7806 -2B TDA7073A
7807 -2B TDA7073A
TTM+
TTM-
RAD+
RAD-
FOC+
FOC-
SL.OUT+
SL.OUT-
DISC MOTOR
TRACK
FOCUS
SLED MOTOR
CDM12.1 DISC DRIVE
DECODER
7800 SAA7378
ADC
MICROPROCESSOR INTERFACE & CONTROL
OUTPUT STAGE
SUBCODE PROCESSOR
PEAK DETECT
DIGITAL PLL
VREF GEN
FRONT END
EFM DEMOD
AUDIO PROCESSOR
SERIAL DATA INTERFACE
SRAM
ERROR CORRECTOR
FLAGS
RAM ADDRESSER
EBU INTERFACE
DECODER MICRO PROCESSOR INTERFACE
TIMING
TEST
VERSATILE INTERFACE
KILL
MOTOR CONTROL
HF-OUT
eyepattern
>800mVpp
1810 8.46MHz
7805 BC548
7809 BC328
7808 BC548
CPU
DAC AUDIO
7851 TDA1311A
CONTROL & TIMING
LEFT I/O
RIGHT I/O
I/V
LEFT
RIGHT
AUDIO OUT
0.5uS/DIV
CL
DA
WS
LEFT CHANNEL
RIGHT CHANNEL
PULSE DENSITY MODULATION
ACCELERATE
BRAKE
PULSE WIDTH MODULATION
PULSES DURING NEXT, PREVIOUS, STOP
DURING FOCUS SEARCH
ELECTRONIC VOLTMETER
DC VOLTAGES MEASURED IN PLAY MODE
9626
3109_0330_A_BL

| Component numbers: | |
|---|---|
| Servo-decoder: | x800 -> x850 |
| Audio-part | x851 -> x870 |
| Interface + Loader | x871 -> x899 |

| | |
|---|---|
| 1800 | D24 |
| 1800 | F24 |
| 1800 | F24 |
| 1800 | D24 |
| 1800 | N 3 |
| 1800 | O 3 |
| 1800 | L 3 |
| 1800 | K 3 |
| 1800 | H 3 |
| 1800 | H 3 |
| 1800 | J 3 |
| 1800 | I 3 |
| 1801 | A24 |
| 1801 | A24 |
| 1801 | B24 |
| 1801 | C24 |
| 1801 | G24 |
| 1801 | H24 |
| 1805 | B 3 |
| 1805 | O 9 |
| 1805 | D 3 |
| 1805 | E 3 |
| 1805 | F 3 |
| 1805 | G 3 |
| 1805 | C 3 |
| 1805 | C 3 |
| 1805 | E 3 |
| 1805 | A 3 |
| 1805 | B 3 |
| 1805 | A 3 |
| 1805 | M24 |
| 1805 | L24 |
| 1805 | K24 |
| 1810 | N11 |
| 1880 | D 9 |
| 1881 | D 9 |
| 1882 | E 9 |
| 2800 | H 5 |
| 2801 | H 6 |
| 2802 | I 5 |
| 2803 | I 6 |
| 2804 | I 5 |
| 2805 | I 6 |
| 2806 | J 6 |
| 2807 | J 5 |
| 2808 | J 6 |
| 2809 | H21 |
| 2810 | K 5 |
| 2811 | K 6 |
| 2812 | K 3 |
| 2813 | K 4 |
| 2814 | K 4 |
| 2815 | L 4 |
| 2816 | L 4 |
| 2817 | N 5 |
| 2818 | O 5 |
| 2819 | M 7 |
| 2820 | M 7 |
| 2821 | M 6 |
| 2822 | J 9 |
| 2823 | J10 |
| 2824 | J10 |
| 2825 | J 8 |
| 2826 | G10 |
| 2827 | G11 |
| 2828 | G11 |
| 2829 | D11 |
| 2830 | O21 |
| 2831 | F15 |
| 2832 | F16 |
| 2835 | I19 |
| 2836 | I19 |
| 2837 | B20 |
| 2838 | B19 |
| 2839 | C19 |
| 2840 | B20 |
| 2841 | D19 |
| 2842 | D20 |
| 2843 | E20 |
| 2844 | F19 |
| 2845 | F20 |
| 2846 | H19 |
| 2847 | H20 |
| 2848 | O16 |
| 2850 | L10 |
| 2851 | K20 |
| 2852 | K21 |
| 2855 | N21 |
| 2860 | K22 |
| 2861 | M22 |
| 2862 | K24 |
| 2863 | M24 |
| 2872 | A 7 |
| 2873 | A12 |
| 2874 | B12 |
| 2875 | D12 |
| 2876 | A 5 |
| 3800 | H 5 |
| 3801 | H 6 |
| 3802 | H 5 |
| 3803 | H 6 |
| 3804 | I 5 |
| 3805 | I 6 |
| 3806 | J 6 |
| 3807 | J 6 |
| 3808 | K 6 |
| 3810 | M 4 |
| 3811 | N 5 |
| 3812 | N 5 |
| 3813 | N 5 |
| 3814 | L 5 |
| 3815 | L 5 |
| 3816 | L 6 |
| 3817 | M 6 |
| 3818 | N 6 |
| 3819 | O 6 |
| 3820 | M 6 |
| 3821 | N 7 |
| 3822 | M 7 |
| 3823 | L 8 |
| 3824 | M 8 |
| 3825 | J 9 |
| 3826 | J10 |
| 3827 | H10 |
| 3828 | M13 |
| 3829 | M 8 |
| 3830 | M11 |
| 3831 | M13 |
| 3832 | J18 |
| 3833 | M12 |
| 3834 | N18 |
| 3835 | N17 |
| 3836 | N17 |
| 3837 | H18 |
| 3838 | I18 |
| 3839 | B19 |
| 3840 | C19 |
| 3841 | C20 |
| 3842 | D19 |
| 3843 | D20 |
| 3844 | D20 |
| 3845 | F19 |
| 3846 | F20 |
| 3847 | F20 |
| 3848 | G19 |
| 3849 | G19 |
| 3850 | H20 |
| 3851 | A12 |
| 3852 | A21 |
| 3853 | E21 |
| 3858 | K23 |
| 3859 | M23 |
| 3860 | K23 |
| 3861 | M23 |
| 3869 | J20 |
| 3870 | A 3 |
| 3871 | C 4 |
| 3872 | E 4 |
| 3873 | F11 |
| 3874 | E 5 |
| 3875 | F 6 |
| 3876 | F 7 |
| 3877 | E 4 |
| 3878 | E 9 |
| 3879 | B11 |
| 3880 | B11 |
| 3881 | B11 |
| 3882 | B10 |
| 3883 | C10 |
| 3884 | D11 |
| 3885 | D10 |
| 3886 | D10 |
| 3887 | A 5 |
| 3888 | C 4 |
| 3889 | G11 |
| 3890 | F11 |
| 3891 | N 4 |
| 3892 | M 6 |
| 3893 | M 7 |
| 3894 | G 9 |
| 3895 | F15 |
| 3896 | B 4 |
| 3897 | L 5 |
| 6871 | D 9 |
| 6872 | D 9 |
| 6873 | E 9 |
| 6874 | C 9 |
| 6875 | B 6 |
| 7800 | H10 |
| 7801 | M 4 |
| 7802 | M 5 |
| 7803 | M 6 |
| 7804 | M 7 |
| 7805 | M 8 |
| 7806 | E21 |
| 7806 | C21 |
| 7807 | B21 |
| 7807 | G21 |
| 7808 | N17 |
| 7809 | N17 |
| 7851 | K19 |
| 7871 | A12 |
| 7871 | C12 |
| 7872 | B 6 |
| 7874 | F 6 |

## CDC LAYOUT-COMPONENT VIEW


PCB 3109.5
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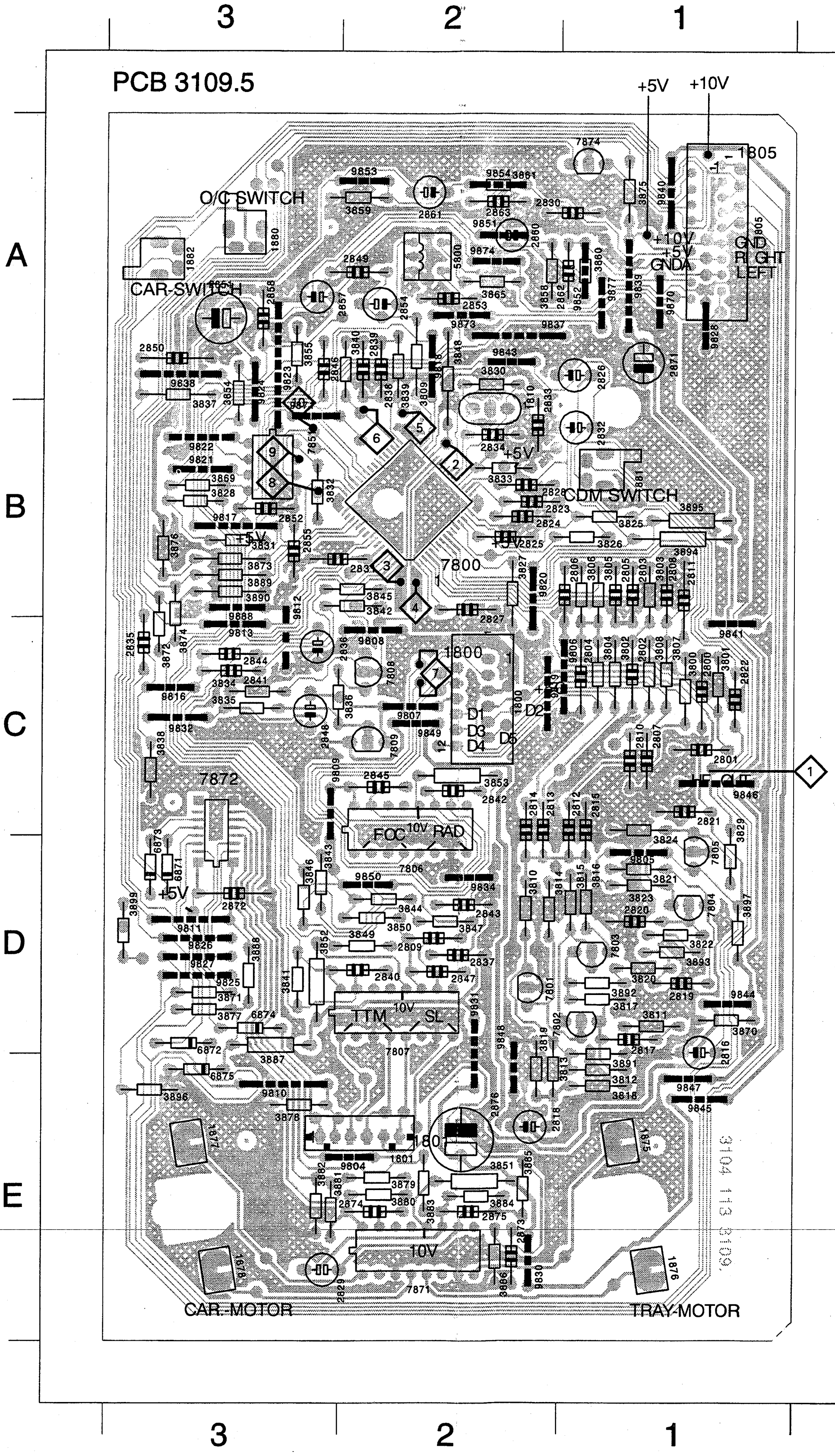
2
3
A
B
C
D
E
7800
7872
3104 113 3109

| | | | | | |
|---|---|---|---|---|---|
| 1800 | C 2 | 3812 | E 1 | 7807 | D 2 |
| 1801 | E 2 | 3813 | E 2 | 7808 | C 2 |
| 1805 | A 1 | 3814 | D 2 | 7809 | C 2 |
| 1810 | B 2 | 3815 | D 1 | 7851 | B 3 |
| 1875 | E 1 | 3816 | D 1 | 7871 | E 2 |
| 1876 | E 1 | 3817 | D 1 | 7874 | A 1 |
| 1877 | E 3 | 3818 | E 1 | 9804 | E 2 |
| 1878 | E 3 | 3819 | E 2 | 9805 | D 1 |
| 1880 | A 3 | 3820 | D 1 | 9806 | C 1 |
| 1881 | B 1 | 3821 | D 1 | 9807 | C 2 |
| 1882 | A 3 | 3822 | D 1 | 9808 | C 2 |
| 2800 | C 1 | 3823 | D 1 | 9809 | C 3 |
| 2801 | C 1 | 3824 | C 1 | 9810 | E 3 |
| 2802 | C 1 | 3825 | B 1 | 9811 | D 3 |
| 2803 | B 1 | 3826 | B 1 | 9812 | C 3 |
| 2804 | C 1 | 3827 | B 2 | 9813 | C 3 |
| 2805 | B 1 | 3828 | B 3 | 9816 | C 3 |
| 2806 | B 1 | 3829 | D 1 | 9817 | B 3 |
| 2807 | C 1 | 3830 | A 2 | 9818 | A 2 |
| 2808 | B 1 | 3831 | B 3 | 9819 | C 2 |
| 2809 | D 2 | 3832 | B 3 | 9820 | B 2 |
| 2810 | C 1 | 3833 | B 2 | 9821 | B 3 |
| 2811 | B 1 | 3834 | C 3 | 9822 | B 3 |
| 2812 | C 1 | 3835 | C 3 | 9823 | A 3 |
| 2813 | C 2 | 3836 | C 3 | 9824 | A 3 |
| 2814 | C 2 | 3837 | A 3 | 9825 | D 3 |
| 2815 | C 1 | 3838 | C 3 | 9826 | D 3 |
| 2816 | D 1 | 3839 | A 2 | 9827 | D 3 |
| 2817 | D 1 | 3840 | A 2 | 9828 | A 1 |
| 2818 | E 2 | 3841 | D 3 | 9830 | E 2 |
| 2819 | D 1 | 3842 | B 2 | 9831 | E 2 |
| 2820 | D 1 | 3843 | D 3 | 9832 | C 3 |
| 2821 | C 1 | 3844 | D 2 | 9834 | D 2 |
| 2822 | C 1 | 3845 | B 2 | 9837 | A 2 |
| 2823 | B 2 | 3846 | D 3 | 9838 | A 3 |
| 2824 | B 2 | 3847 | D 2 | 9839 | A 1 |
| 2825 | B 2 | 3848 | A 2 | 9840 | A 1 |
| 2826 | A 1 | 3849 | D 2 | 9841 | C 1 |
| 2827 | B 2 | 3850 | D 2 | 9843 | A 2 |
| 2828 | B 2 | 3851 | E 2 | 9844 | D 1 |
| 2829 | E 3 | 3852 | D 3 | 9845 | E 1 |
| 2830 | A 1 | 3853 | C 2 | 9846 | C 1 |
| 2831 | B 3 | 3854 | A 3 | 9847 | E 1 |
| 2832 | B 1 | 3855 | A 3 | 9848 | E 2 |
| 2833 | B 2 | 3858 | A 2 | 9849 | C 2 |
| 2834 | B 2 | 3859 | A 2 | 9850 | D 2 |
| 2835 | C 3 | 3860 | A 1 | 9851 | A 2 |
| 2836 | C 3 | 3861 | A 2 | 9852 | A 1 |
| 2837 | D 2 | 3865 | A 2 | 9853 | A 2 |
| 2838 | A 2 | 3869 | B 3 | 9854 | A 2 |
| 2839 | A 2 | 3870 | D 1 | 9870 | A 1 |
| 2840 | D 2 | 3871 | D 3 | 9871 | B 3 |
| 2841 | C 3 | 3872 | C 3 | 9873 | A 2 |
| 2842 | C 2 | 3873 | B 3 | 9874 | A 2 |
| 2843 | D 2 | 3874 | B 3 | 9877 | A 1 |
| 2844 | C 3 | 3875 | A 1 | 9888 | B 3 |
| 2845 | C 2 | 3876 | B 3 | | |
| 2846 | A 3 | 3877 | D 3 | | |
| 2847 | D 2 | 3878 | E 3 | | |
| 2848 | C 3 | 3879 | E 2 | | |
| 2849 | A 2 | 3880 | E 2 | | |
| 2850 | A 3 | 3881 | E 3 | | |
| 2851 | A 3 | 3882 | E 3 | | |
| 2852 | B 3 | 3883 | E 2 | | |
| 2853 | A 2 | 3884 | E 2 | | |
| 2854 | A 2 | 3885 | E 2 | | |
| 2855 | B 3 | 3886 | E 2 | | |
| 2857 | A 3 | 3887 | D 3 | | |
| 2858 | A 3 | 3888 | D 3 | | |
| 2860 | A 2 | 3889 | B 3 | | |
| 2861 | A 2 | 3890 | B 3 | | |
| 2862 | A 1 | 3891 | E 1 | | |
| 2863 | A 2 | 3892 | D 1 | | |
| 2871 | A 1 | 3893 | D 1 | | |
| 2872 | D 3 | 3894 | B 1 | | |
| 2873 | E 2 | 3895 | B 1 | | |
| 2874 | E 2 | 3896 | E 3 | | |
| 2875 | E 2 | 3897 | D 1 | | |
| 2876 | E 2 | 3899 | D 3 | | |
| 3800 | C 1 | 5800 | A 2 | | |
| 3801 | C 1 | 6871 | D 3 | | |
| 3802 | C 1 | 6872 | D 3 | | |
| 3803 | B 1 | 6873 | D 3 | | |
| 3804 | C 1 | 6874 | D 3 | | |
| 3805 | B 1 | 6875 | E 3 | | |
| 3806 | B 1 | 7801 | D 2 | | |
| 3807 | C 1 | 7802 | D 1 | | |
| 3808 | C 1 | 7803 | D 1 | | |
| 3809 | A 2 | 7804 | D 1 | | |
| 3810 | D 2 | 7805 | D 1 | | |
| 3811 | D 1 | 7806 | C 2 | | |

## CDC LAYOUT-COPPER VIEW


PCB 3109.5
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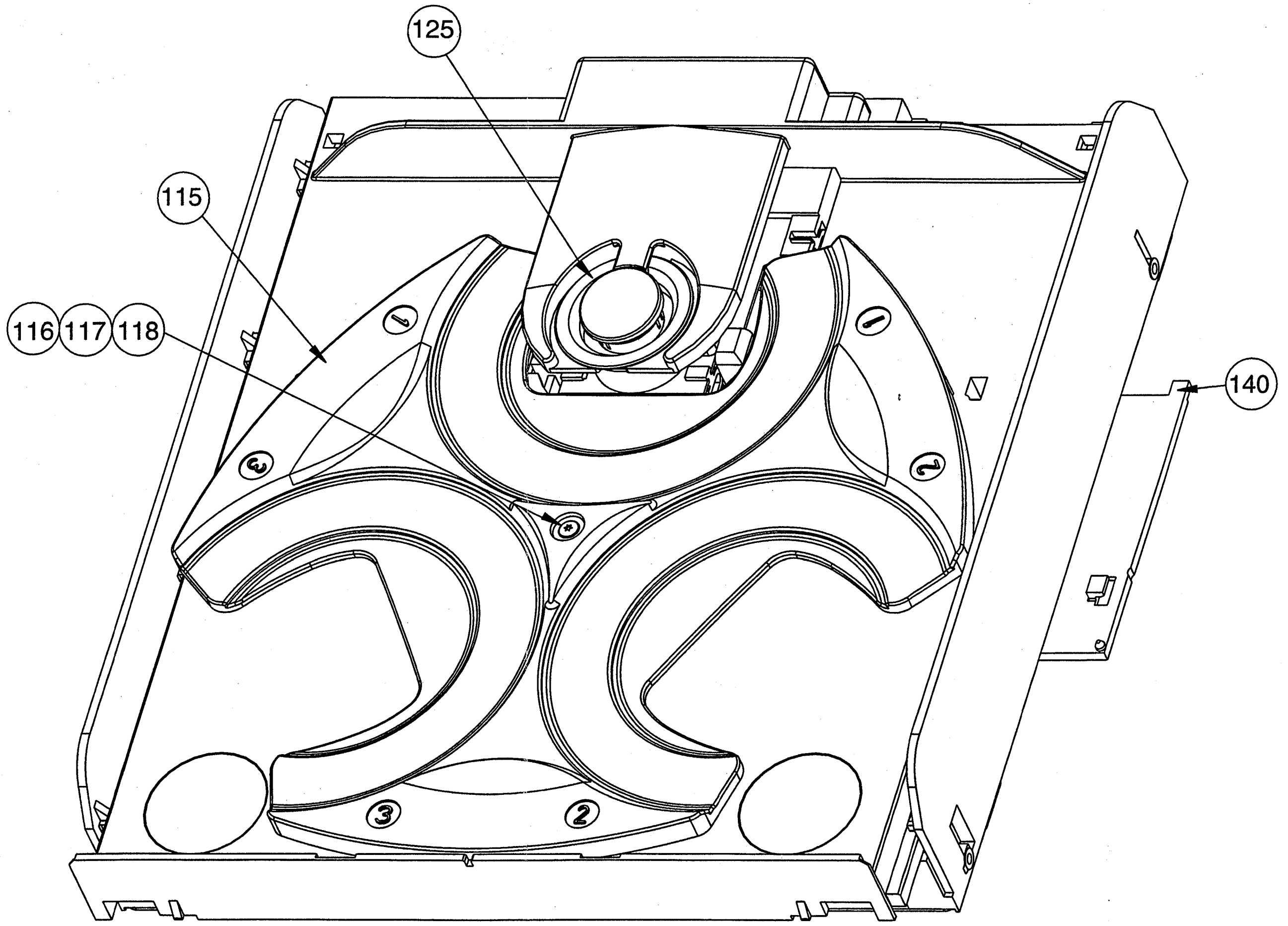
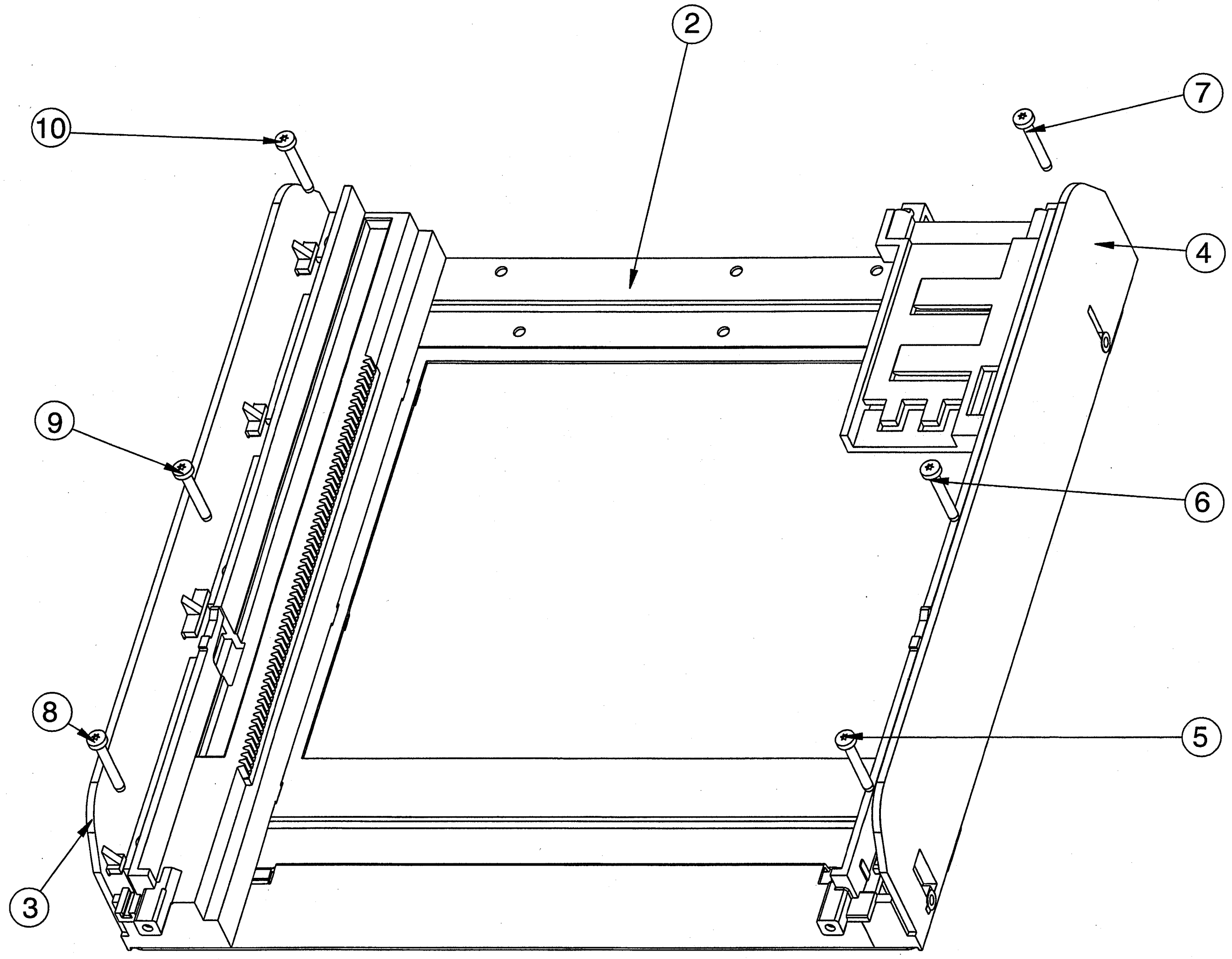
+10V
1805
O/C SWITCH
CAR-SWITCH
CDM SWITCH
+10V
GND
RIGHT
LEFT
+5V
GNDA
7800
1800
D1
D2
D3
D4
D5
HF OUT
FOC
RAD
10V
TTM
SL
7872
CAR.-MOTOR
TRAY-MOTOR
3104 113 3109

| | |
|---|---|
| 7800 | B 2 |
| 7872 | C 3 |

## CDC EXPLODED VIEW I

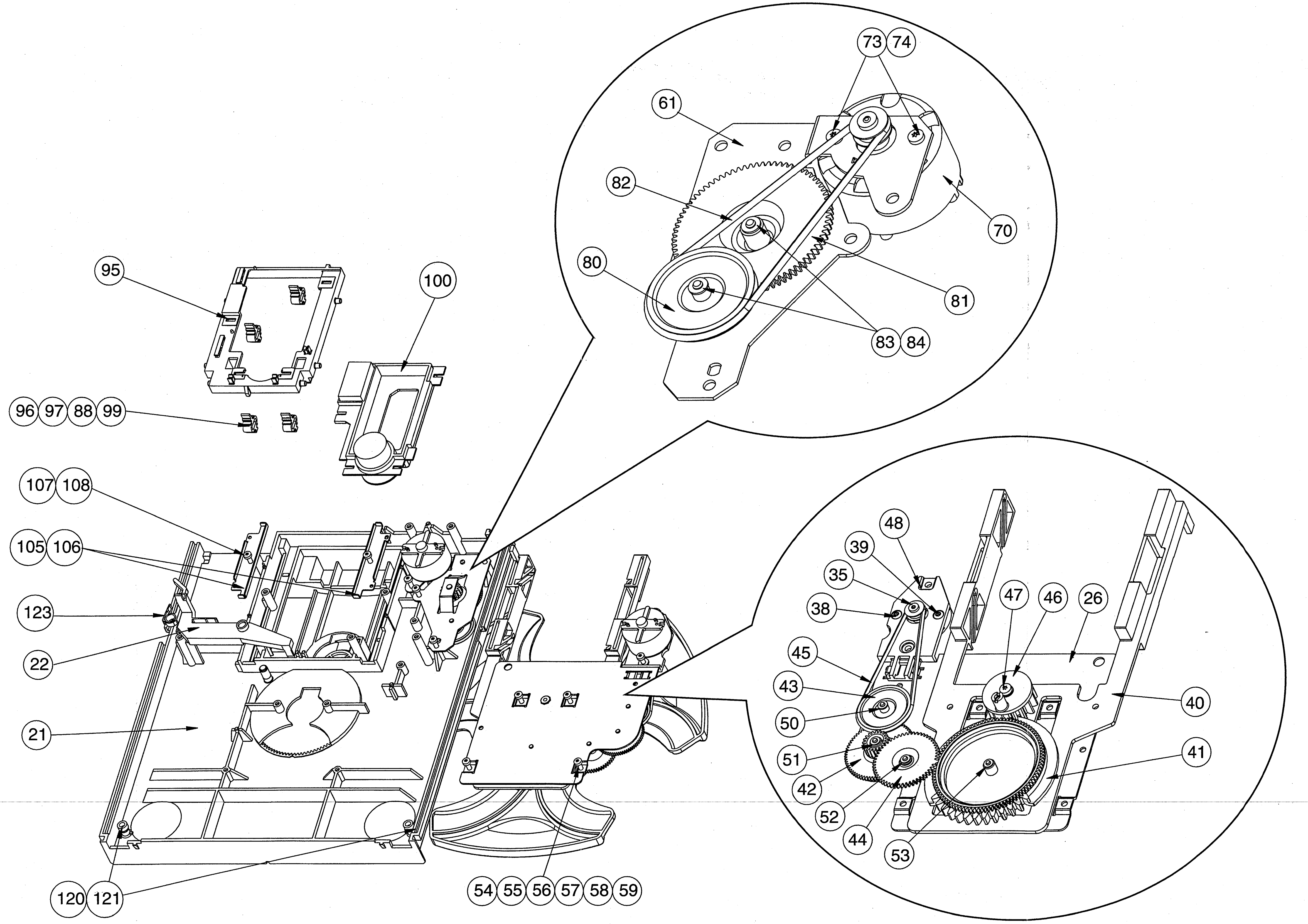




| | | |
|---|---|---|
| 3 | 4822 463 11008 | Guide Left |
| 4 | 4822 463 11009 | Guide Right |
| 21 | 4822 441 11615 | Drawer |
| 22 | 4822 402 10088 | Tumbler |
| 35 | 4822 361 10753 | Carrousel Motor |
| 38 | 4822 502 12548 | Screw M2,6 X 3,5 |
| 39 | 4822 502 12548 | Screw M2,6 X 3,5 |
| 40 | 4822 463 11011 | Slide |
| 41 | 4822 522 10509 | Control Disc |
| 42 | 4822 522 10492 | Gear Wheel |
| 43 | 4822 528 10937 | Pulley |
| 44 | 4822 522 10493 | Idler Wheel |
| 45 | 4822 358 10115 | Belt |
| 46 | 4822 466 10735 | Eccentric Gear Wheel |
| 50 | 4822 532 12364 | Washer |
| 51 | 4822 532 12364 | Washer |
| 52 | 4822 532 12364 | Washer |
| 53 | 4822 532 12364 | Washer |
| 70 | 4822 361 10753 | Tray Motor |
| 73 | 4822 502 12548 | Screw M 2,6 X 3,5 |
| 74 | 4822 502 12548 | Screw M 2,6 X 3,5 |
| 80 | 4822 528 10937 | Pulley |
| 81 | 4822 522 10494 | Gear Wheel |
| 82 | 4822 358 10115 | Belt |
| 83 | 4822 532 12364 | Washer |
| 84 | 4822 532 12364 | Washer |
| 95 | 4822 404 10894 | CDM Support |
| 96 | 4822 325 50215 | Suspension |
| 97 | 4822 325 50215 | Suspension |
| 98 | 4822 325 50215 | Suspension |
| 99 | 4822 325 50215 | Suspension |
| 100 | 4822 691 30278 | CDM-12.1 Mechanism |
| 115 | 4822 466 10736 | Carrousel |
| 117 | 4822 532 12365 | Bush |
| 120 | 4822 532 51756 | Damping Grommet |
| 121 | 4822 532 51756 | Damping Grommet |
| 123 | 4822 402 10085 | Switch Bracket |
| 125 | 4822 532 52386 | Clamper |
| 140 | 4822 466 10734 | Flex Cable Protection Plate |
| | 4822 320 11183 | Flexfoil 17P |
| | 4822 390 10136 | Lub. Grease Polylub GLY801 |

NOTE: Only the parts mentioned in this list are normal service spare parts.

## CDC EXPLODED VIEW II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## ELECTRICAL PARTS LIST - CDC BOARD

### MISCELLANEOUS

| | | |
|---|---|---|
| 1810 | 4822 242 73557 | Ceram Resonator 8.46MHz |
| 1880 | 4822 276 13503 | Open/Close Switch |
| 1881 | 4822 276 13503 | CDM Position Switch |
| 1882 | 4822 276 13503 | Carrousel Switch |
| 8002 | 4822 320 11313 | Flexfoil 15P |

### CAPACITORS

| | | |
|---|---|---|
| 2800 | 4822 126 10053 | 180pF 10% 50V |
| 2801 | 4822 122 10466 | 220pF 10% 50V |
| 2802 | 4822 126 10053 | 180pF 10% 50V |
| 2803 | 4822 122 10466 | 220pF 10% 50V |
| 2804 | 4822 126 12787 | 330pF 10% 50V |
| 2805 | 4822 122 10466 | 220pF 10% 50V |
| 2806 | 4822 122 10466 | 220pF 10% 50V |
| 2807 | 4822 126 12878 | 1,5nF 10% 16V |
| 2808 | 4822 122 10466 | 220pF 10% 50V |
| 2809 | 4822 126 12882 | 100nF+80/-20% 50V |
| 2810 | 4822 122 10459 | 560pF 10% 50V |
| 2811 | 4822 122 10466 | 220pF 10% 50V |
| 2812 | 4822 122 33848 | 47pF 5% 50V |
| 2813 | 4822 122 33848 | 47pF 5% 50V |
| 2814 | 4822 122 33195 | 100pF 10% 50V |
| 2815 | 4822 126 12573 | 18pF 5% 50V |
| 2816 | 4822 124 23624 | 47µF 20% 16V |
| 2817 | 4822 126 10053 | 180pF 10% 50V |
| 2818 | 4822 124 23624 | 47µF 20% 16V |
| 2819 | 4822 126 12787 | 330pF 10% 50V |
| 2820 | 4822 126 10053 | 180pF 10% 50V |
| 2821 | 4822 126 11585 | 22nF+80/-20% 25V |
| 2822 | 4822 126 12339 | 2,2nF 10% 16V |
| 2823 | 4822 122 33848 | 47pF 5% 50V |
| 2824 | 4822 126 11585 | 22nF+80/-20% 25V |
| 2825 | 4822 126 12882 | 100nF+80/-20% 50V |
| 2826 | 4822 124 23624 | 47µF 20% 16V |
| 2827 | 4822 126 12882 | 100nF+80/-20% 50V |
| 2828 | 4822 126 12882 | 100nF+80/-20% 50V |
| 2829 | 4822 124 80865 | 10µF 20% 25V |
| 2830 | 4822 126 12882 | 100nF+80/-20% 50V |
| 2831 | 4822 126 12882 | 100nF+80/-20% 50V |
| 2832 | 4822 124 23624 | 47µF 20% 16V |
| 2835 | 4822 126 12882 | 100nF+80/-20% 50V |
| 2836 | 4822 124 23624 | 47µF 20% 16V |
| 2837 | 4822 126 12882 | 100nF+80/-20% 50V |
| 2838 | 4822 126 12882 | 100nF+80/-20% 50V |
| 2839 | 4822 126 12882 | 100nF+80/-20% 50V |
| 2840 | 4822 126 12882 | 100nF+80/-20% 50V |
| 2841 | 4822 122 10574 | 1,2nF 10% 16V |
| 2842 | 4822 121 51387 | 10nF 20% 16V |
| 2843 | 4822 126 12882 | 100nF+80/-20% 50V |
| 2844 | 4822 122 10574 | 1,2nF 10% 16V |
| 2845 | 4822 121 51387 | 10nF 20% 16V |
| 2846 | 4822 126 11585 | 22nF+80/-20% 25V |
| 2847 | 4822 126 12882 | 100nF+80/-20% 50V |
| 2848 | 4822 124 23624 | 47µF 20% 16V |
| 2850 | 4822 122 33197 | 1nF 10% 50V |
| 2851 | 4822 124 41997 | 470µF 10V |
| 2852 | 4822 126 12882 | 100nF+80/-20% 50V |
| 2855 | 4822 126 12882 | 100nF+80/-20% 50V |
| 2860 | 4822 124 41579 | 10µF 20% 50V |
| 2861 | 4822 124 41579 | 10µF 20% 50V |
| 2862 | 4822 126 12339 | 2,2nF 10% 16V |
| 2863 | 4822 126 12339 | 2,2nF 10% 16V |
| 2872 | 4822 126 12882 | 100nF+80/-20% 50V |
| 2873 | 4822 126 12882 | 100nF+80/-20% 50V |
| 2874 | 4822 126 11585 | 22nF+80/-20% 25V |
| 2875 | 4822 126 11585 | 22nF+80/-20% 25V |
| 2876 | 4822 124 23794 | 470µF 20% 16V |

### RESISTORS

| | | |
|---|---|---|
| 3800 | 4822 116 52239 | 120k 5% 0,5W |
| 3801 | 4822 116 83864 | 10k 5% 0,5W |
| 3802 | 4822 116 52239 | 120k 5% 0,5W |
| 3803 | 4822 116 83864 | 10k 5% 0,5W |
| 3804 | 4822 116 52291 | 56k 5% 0,5W |
| 3805 | 4822 116 83864 | 10k 5% 0,5W |
| 3806 | 4822 116 83864 | 10k 5% 0,5W |
| 3807 | 4822 116 83864 | 10k 5% 0,5W |
| 3808 | 4822 116 83864 | 10k 5% 0,5W |
| 3810 | 4822 050 11002 | 1k 1% 0,4W |
| 3811 | 4822 116 52244 | 15k 5% 0,5W |
| 3812 | 4822 116 52272 | 330k 5% 0,5W |
| 3813 | 4822 116 52284 | 47k 5% 0,5W |
| 3814 | 4822 116 83882 | 39k 5% 0,5W |
| 3815 | 4822 050 11002 | 1k 1% 0,4W |
| 3816 | 4822 116 52175 | 100E 5% 0,5W |
| 3817 | 4822 050 11002 | 1k 1% 0,4W |
| 3818 | 4822 116 52175 | 100E 5% 0,5W |
| 3819 | 4822 116 52222 | 390E 5% 0,5W |
| 3820 | 4822 116 52219 | 330E 5% 0,5W |
| 3821 | 4822 116 52249 | 1k8 5% 0,5W |
| 3822 | 4822 116 52219 | 330E 5% 0,5W |
| 3823 | 4822 116 52249 | 1k8 5% 0,5W |
| 3824 | 4822 116 52269 | 3k3 5% 0,5W |
| 3825 | 4822 116 52256 | 2k2 5% 0,5W |
| 3826 | 4822 116 52257 | 22k 5% 0,5W |
| 3827 | 4822 116 52278 | 390k 5% 0,5W |
| 3828 | 4822 116 52257 | 22k 5% 0,5W |
| 3829 | 4822 116 52175 | 100E 5% 0,5W |
| 3830 | 4822 116 52235 | 1M 5% 0,5W |
| 3831 | 4822 116 52257 | 22k 5% 0,5W |
| 3832 | 4822 116 83872 | 220E 5% 0,5W |
| 3833 | 4822 116 83864 | 10k 5% 0,5W |
| 3834 | 4822 116 83864 | 10k 5% 0,5W |
| 3835 | 4822 116 52256 | 2k2 5% 0,5W |
| 3836 | 4822 050 11002 | 1k 1% 0,4W |
| 3837 | 4822 050 11002 | 1k 1% 0,4W |
| 3838 | 4822 050 11002 | 1k 1% 0,4W |
| 3839 | 4822 116 52245 | 150k 5% 0,5W |
| 3840 | 4822 116 52245 | 150k 5% 0,5W |
| 3841 | 4822 116 52289 | 5k6 5% 0,5W |
| 3842 | 4822 116 83864 | 10k 5% 0,5W |
| 3843 | 4822 116 52303 | 8k2 5% 0,5W |
| 3844 | 4822 116 52224 | 470E 5% 0,5W |
| 3845 | 4822 116 83864 | 10k 5% 0,5W |
| 3846 | 4822 116 52303 | 8k2 5% 0,5W |
| 3847 | 4822 116 52224 | 470E 5% 0,5W |
| 3848 | 4822 116 52303 | 8k2 5% 0,5W |
| 3849 | 4822 116 52303 | 8k2 5% 0,5W |
| 3850 | 4822 116 52224 | 470E 5% 0,5W |
| 3851 | 4822 052 10338 ⚠ | 3E3 5% 0,33W |
| 3852 | 4822 052 10338 ⚠ | 3E3 5% 0,33W |
| 3853 | 4822 052 10338 ⚠ | 3E3 5% 0,33W |
| 3858 | 4822 116 52257 | 22k 5% 0,5W |
| 3859 | 4822 116 52257 | 22k 5% 0,5W |
| 3860 | 4822 116 52224 | 470E 5% 0,5W |
| 3861 | 4822 116 52224 | 470E 5% 0,5W |
| 3869 | 4822 116 52175 | 100E 5% 0,5W |
| 3870 | 4822 116 52226 | 560E 5% 0,5W |
| 3871 | 4822 116 83864 | 10k 5% 0,5W |
| 3872 | 4822 116 83864 | 10k 5% 0,5W |
| 3873 | 4822 116 52224 | 470E 5% 0,5W |
| 3874 | 4822 116 83864 | 10k 5% 0,5W |
| 3875 | 4822 116 83864 | 10k 5% 0,5W |
| 3876 | 4822 116 83874 | 220k 5% 0,5W |
| 3877 | 4822 116 83864 | 10k 5% 0,5W |
| 3878 | 4822 116 83864 | 10k 5% 0,5W |
| 3879 | 4822 116 83864 | 10k 5% 0,5W |
| 3880 | 4822 116 52219 | 330E 5% 0,5W |
| 3881 | 4822 116 83864 | 10k 5% 0,5W |
| 3882 | 4822 116 52284 | 47k 5% 0,5W |
| 3883 | 4822 116 52234 | 100k 5% 0,5W |
| 3884 | 4822 116 52276 | 3k9 5% 0,5W |
| 3885 | 4822 116 52234 | 100k 5% 0,5W |
| 3886 | 4822 116 52284 | 47k 5% 0,5W |
| 3887 | 4822 052 10221 ⚠ | 220E 5% 0,33W |
| 3888 | 4822 116 83864 | 10k 5% 0,5W |
| 3889 | 4822 116 52224 | 470E 5% 0,5W |
| 3890 | 4822 116 52224 | 470E 5% 0,5W |
| 3891 | 4822 116 52244 | 15k 5% 0,5W |
| 3892 | 4822 116 52175 | 100E 5% 0,5W |
| 3893 | 4822 116 52175 | 100E 5% 0,5W |
| 3894 | 4822 052 10338 ⚠ | 3E3 5% 0,33W |
| 3895 | 4822 052 10338 ⚠ | 3E3 5% 0,33W |
| 3896 | 4822 116 83864 | 10k 5% 0,5W |
| 3897 | 4822 116 52175 | 100E 5% 0,5W |

### DIODES

| | | |
|---|---|---|
| 6871 | 4822 130 30621 | 1N4148 |
| 6872 | 4822 130 30621 | 1N4148 |
| 6873 | 4822 130 30621 | 1N4148 |
| 6874 | 4822 130 30621 | 1N4148 |
| 6875 | 4822 130 34233 | BZX79-C5V1 |

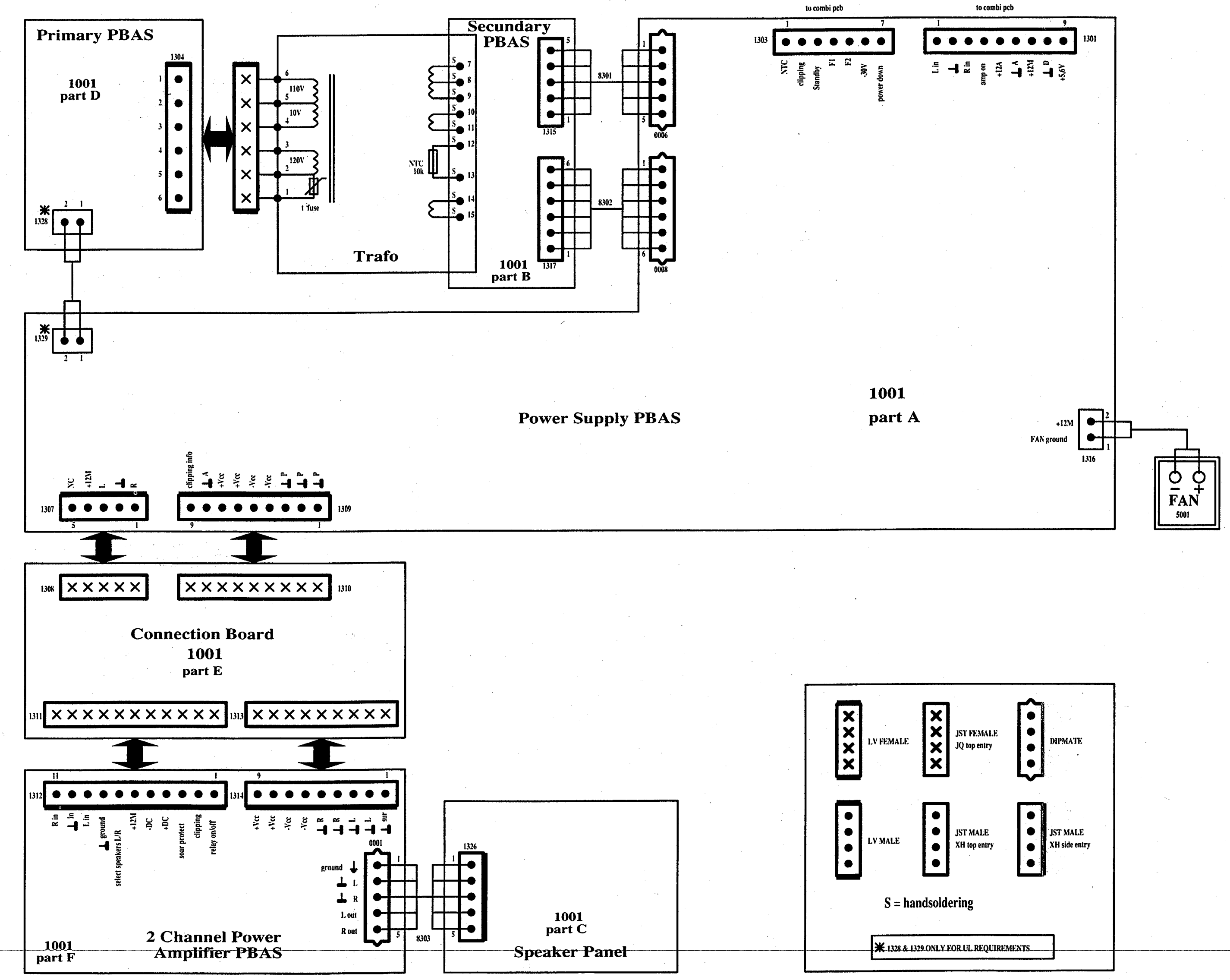
### TRANSISTORS & INTEGRATED CIRCUITS

| | | |
|---|---|---|
| 7800 | 4822 209 12752 | SAA7378GP/M1 |
| 7801 | 4822 130 40902 | BF240 |
| 7802 | 4822 130 40937 | BC548B |
| 7803 | 4822 130 44197 | BC558B |
| 7804 | 4822 130 40937 | BC548B |
| 7805 | 4822 130 40937 | BC548B |
| 7806 | 4822 209 32852 | TDA7073A/N2 |
| 7807 | 4822 209 32852 | TDA7073A/N2 |
| 7808 | 4822 130 40937 | BC548B |
| 7809 | 4822 130 41715 | BC328-40 |
| 7851 | 4822 209 32421 | TDA1311A/N2 |
| 7871 | 4822 209 32852 | TDA7073A/N2 |
| 7872 | 5322 209 11306 | HEF4094BT |
| 7874 | 4822 130 40937 | BC548B |

NOTE: Only the parts mentioned in this list are normal service spare parts.

# POWER BOARD

## WIRING DIAGRAM


Primary PBAS
1001
part D
1304
1328
Trafo
110V
10V
120V
NTC 10k
t fuse
Secundary PBAS
1001
part B
1315
1317
8301
8302
0006
0008
to combi pcb
1303
NTC
clipping
Standby
F1
F2
-30V
power down
1301
L in
R in
amp on
+12A
+12M
+5,6V
1329
Power Supply PBAS
1001
part A
+12M
FAN ground
1316
FAN
5001
1307
NC
+12M
L
R
1309
clipping info
+Vcc
-Vcc
1308
1310
Connection Board
1001
part E
1311
1313
1312
1314
R in
L in
ground
select speakers L/R
+12M
-DC
+DC
tour protect
clipping
relay on/off
0001
ground
L
R
L out
R out
8303
1326
1001
part C
Speaker Panel
1001
part F
2 Channel Power Amplifier PBAS
LV FEMALE
JST FEMALE JQ top entry
DIPMATE
LV MALE
JST MALE XH top entry
JST MALE XH side entry
S = handsoldering
✱ 1328 & 1329 ONLY FOR UL REQUIREMENTS

## INTERFACE DESCRIPTION

### CONNECTOR 1301

| PIN | FUNCTION | DESCRIPTION |
|---|---|---|
| 1 | L | Left input for power amplifier |
| 2 | Gnd | Audio input reference ground |
| 3 | R | Right input for power amplifier |
| 4 | Amp on | Control signal for uP to switch VCD regulator to standby |
| 5 | +12A | Supply voltage for analogue electronic circuits |
| 6 | ⊥A | Gnd for +12A |
| 7 | +12M | supply voltage for tapemotor, CD mechanism and the headphones amplifier |
| 8 | ⊥D | ground for +12M and uProcessor |
| 9 | +5.6V | supply voltage for uP |

### CONNECTOR 1303

| PIN | FUNCTION | DESCRIPTION |
|---|---|---|
| 1 | NTC | Control line to uP for temperature control of transformer |
| 2 | clipping | control line to reduce bass setting in case of overload |
| 3 | standby | control signal from the uprocessor |
| 4 | F1 | AC voltage to FTD filament |
| 5 | F2 | AC voltage to FTD filament |
| 6 | -30V | negative supply voltage to FTD grid |
| 7 | power down | control line to uProcessor to detect mains failure |

### CONNECTOR 1304

| PIN | FUNCTION | DESCRIPTION |
|---|---|---|
| 6 | transformer fuse | pin 1 of transformer |
| 5 | | pin 2 of transformer |
| 4 | | pin 3 of transformer |
| 3 | | pin 4 of transformer |
| 2 | | pin 5 of transformer |
| 1 | | pin 6 of transformer |

### CONNECTOR 1315

| PIN | DESCRIPTION |
|---|---|
| 6 and 5 | AC secondary connection to pin 7 of transformer |
| 4 and 3 | AC secondary connection to pin 8of transformer |
| 2 and 1 | AC secondary connection to pin 9 of transformer |

### CONNECTOR 1317

| PIN | DESCRIPTION |
|---|---|
| 6 | Filament voltage F2 to pin 10 of transformer |
| 5 | Filament voltage F1 to pin 11 of transformer |
| 4 | NTC control line to pin 12 of transformer |
| 3 | ground of NTC to pin 13 of transformer |
| 2 | AC supply voltage to pin 14 of transformer |
| 1 | AC supply voltage to pin 15 of transformer |

### CONNECTOR 1316

| PIN | DESCRIPTION |
|---|---|
| 1 | GND to fan |
| 2 | Positive supply voltage to fan |

| | |
|---|---|
| 0001 | A 1 |
| 0006 | C 7 |
| 0008 | C 9 |
| 0010 | D 5 |
| 0013 | D 9 |
| 0014 | D 9 |
| 0016 | D 3 |
| 0017 | D 3 |
| 0107 | C 9 |
| 0108 | C 9 |
| 0109 | C 8 |
| 0110 | C 8 |
| 0111 | C 8 |
| 0112 | C 8 |
| 0113 | C 8 |
| 0114 | C 7 |
| 0115 | C 7 |
| 0301 | C 1 |
| 0302 | C 1 |
| 0303 | C 1 |
| 0304 | C 2 |
| 0306 | C 2 |
| 0307 | C 1 |
| 0308 | C 1 |
| 0315 | C 2 |
| 0319 | C 1 |
| 1301 | A 9 |
| 1303 | C 9 |
| 1304 | D 2 |
| 1305 | C 1 |
| 1306 | B 9 |
| 1307 | A 6 |
| 1308 | B 5 |
| 1309 | A 7 |
| 1310 | A 5 |
| 1311 | B 4 |
| 1312 | B 1 |
| 1313 | A 4 |
| 1314 | A 1 |
| 1315 | D 9 |
| 1316 | B 7 |
| 1317 | D 8 |
| 1325 | D 5 |
| 1326 | D 6 |
| 1328 | D 1 |
| 1329 | B 9 |
| 1331 | D 9 |
| 1332 | D 9 |
| 1334 | D 2 |
| 1350 | A 8 |
| 1351 | C 2 |
| 1352 | D 9 |
| 1353 | D 8 |
| 1354 | D 7 |
| 1355 | C 6 |
| 1357 | D 6 |
| 1358 | D 5 |
| 1359 | D 4 |
| 1360 | C 3 |
| 1361 | D 6 |
| 1362 | D 6 |
| 1363 | B 6 |
| 2301 | C 6 |
| 2302 | B 6 |
| 2303 | C 6 |
| 2304 | A 7 |
| 2305 | A 8 |
| 2306 | B 6 |
| 2307 | B 8 |
| 2308 | C 7 |
| 2309 | C 8 |
| 2310 | C 9 |
| 2311 | B 6 |
| 2312 | A 5 |
| 2313 | A 5 |
| 2314 | A 6 |
| 2315 | A 7 |
| 2316 | A 9 |
| 2317 | C 7 |
| 2318 | A 7 |
| 2319 | A 6 |
| 2320 | A 6 |
| 2321 | B 9 |
| 2322 | A 9 |
| 2323 | A 9 |
| 2326 | C 9 |
| 2327 | C 9 |
| 2328 | B 9 |
| 2329 | C 9 |
| 2330 | A 4 |
| 2331 | B 3 |
| 2332 | B 1 |
| 2333 | B 3 |
| 2334 | B 1 |
| 2335 | B 3 |
| 2336 | B 1 |
| 2337 | B 3 |
| 2338 | B 1 |
| 2339 | B 3 |
| 2340 | B 1 |
| 2341 | B 3 |
| 2342 | B 2 |
| 2343 | B 2 |
| 2344 | B 2 |
| 2345 | A 1 |
| 2346 | A 3 |
| 2347 | A 2 |
| 2348 | A 2 |
| 2349 | B 3 |
| 2350 | B 2 |
| 2351 | A 3 |
| 2352 | A 2 |
| 2353 | B 2 |
| 2354 | B 4 |
| 2355 | B 4 |
| 2356 | B 4 |
| 2357 | C 7 |
| 2358 | B 1 |
| 2359 | B 1 |
| 2360 | B 3 |
| 2361 | A 3 |
| 2362 | B 6 |
| 2363 | A 1 |
| 2396 | D 7 |
| 2397 | D 7 |
| 2398 | D 5 |
| 2399 | D 4 |
| 3301 | D 1 |
| 3302 | C 5 |
| 3303 | C 6 |
| 3304 | C 6 |
| 3305 | C 5 |
| 3306 | B 9 |
| 3307 | C 7 |
| 3308 | C 8 |
| 3309 | C 9 |
| 3310 | C 9 |
| 3311 | B 8 |
| 3312 | A 5 |
| 3313 | A 5 |
| 3314 | A 5 |
| 3315 | A 6 |
| 3316 | A 5 |
| 3317 | B 9 |
| 3318 | B 9 |
| 3319 | A 9 |
| 3320 | A 9 |
| 3322 | B 9 |
| 3323 | B 9 |
| 3324 | B 8 |
| 3325 | B 8 |
| 3326 | B 8 |
| 3327 | B 8 |
| 3328 | B 9 |
| 3329 | B 9 |
| 3330 | B 9 |
| 3331 | B 3 |
| 3332 | B 1 |
| 3333 | B 3 |
| 3334 | B 1 |
| 3335 | B 3 |
| 3336 | B 1 |
| 3337 | B 3 |
| 3338 | B 2 |
| 3339 | B 2 |
| 3340 | B 2 |
| 3341 | B 2 |
| 3342 | B 2 |
| 3343 | B 2 |
| 3344 | B 9 |
| 3345 | B 9 |
| 3346 | A 2 |
| 3347 | A 3 |
| 3348 | A 2 |
| 3349 | A 2 |
| 3350 | B 5 |
| 3351 | B 6 |
| 3352 | A 3 |
| 3353 | A 3 |
| 3354 | A 2 |
| 3355 | B 4 |
| 3356 | A 3 |
| 3357 | A 3 |
| 3358 | A 2 |
| 3359 | A 2 |
| 3360 | B 3 |
| 3361 | B 3 |
| 3362 | A 3 |
| 3363 | B 3 |
| 3364 | A 1 |
| 3365 | A 3 |
| 3366 | A 3 |
| 3367 | B 4 |
| 3368 | B 4 |
| 3369 | B 5 |
| 3370 | B 5 |
| 3371 | B 4 |
| 3372 | B 4 |
| 3373 | B 4 |
| 3374 | B 7 |
| 3375 | A 2 |
| 3376 | A 2 |
| 3377 | B 5 |
| 3378 | B 6 |
| 3379 | B 6 |
| 3380 | B 6 |
| 3381 | B 7 |
| 3382 | A 4 |
| 3383 | B 4 |
| 3384 | A 4 |
| 3385 | A 4 |
| 3386 | A 5 |
| 3387 | B 2 |
| 3388 | B 1 |
| 3389 | B 3 |
| 3390 | B 1 |
| 3391 | D 4 |
| 3392 | D 5 |
| 3393 | D 7 |
| 3394 | D 7 |
| 3396 | B 4 |
| 3397 | B 7 |
| 3398 | A 5 |
| 3399 | A 5 |
| 3480 | B 8 |
| 5302 | D 3 |
| 5303 | D 1 |
| 5305 | A 1 |
| 5307 | A 3 |
| 5308 | A 2 |
| 5311 | D 3 |
| 6301 | B 5 |
| 6302 | B 6 |
| 6303 | C 6 |
| 6304 | B 6 |
| 6305 | B 6 |
| 6306 | C 7 |
| 6309 | B 7 |
| 6311 | B 7 |
| 6313 | C 8 |
| 6314 | C 8 |
| 6315 | C 8 |
| 6316 | C 8 |
| 6317 | C 8 |
| 6318 | C 8 |
| 6319 | A 6 |
| 6324 | B 9 |
| 6325 | C 1 |
| 6326 | C 1 |
| 6327 | C 9 |
| 6328 | C 9 |
| 6329 | C 9 |
| 6330 | C 9 |
| 6331 | B 9 |
| 6332 | B 9 |
| 6333 | A 4 |
| 6334 | A 4 |
| 6335 | C 9 |
| 6336 | C 9 |
| 6338 | B 8 |
| 6339 | C 7 |
| 6340 | B 5 |
| 6341 | B 6 |
| 6342 | A 9 |
| 6344 | A 6 |
| 6345 | A 2 |
| 6346 | B 1 |
| 6347 | A 3 |
| 6348 | B 1 |
| 6349 | A 3 |
| 6350 | A 3 |
| 6351 | A 3 |
| 6352 | A 1 |
| 6353 | A 1 |
| 6355 | B 5 |
| 6356 | B 5 |
| 6357 | B 4 |
| 6358 | B 4 |
| 6359 | B 4 |
| 6360 | B 4 |
| 6361 | B 5 |
| 6363 | C 9 |
| 6364 | B 4 |
| 6365 | C 9 |
| 6367 | B 9 |
| 6368 | B 4 |
| 6371 | B 9 |
| 7301 | C 7 |
| 7302 | A 5 |
| 7303 | A 6 |
| 7304 | A 6 |
| 7305 | B 9 |
| 7306 | B 9 |
| 7309 | A 5 |
| 7310 | B 9 |
| 7311 | B 9 |
| 7312 | B 8 |
| 7313 | A 4 |
| 7315 | A 6 |
| 7317 | B 9 |
| 7321 | B 2 |
| 7322 | B 4 |
| 7323 | A 3 |
| 7324 | A 3 |
| 7325 | B 4 |
| 7326 | B 5 |
| 7329 | B 6 |
| 7330 | B 6 |
| 7331 | B 7 |
| 9301 | D 1 |
| 9302 | D 1 |
| 9303 | D 1 |
| 9304 | C 3 |
| 9305 | C 3 |
| 9306 | C 3 |
| 9307 | D 1 |
| 9308 | C 2 |
| 9309 | C 7 |
| 9310 | D 2 |
| 9311 | D 2 |
| 9312 | D 2 |
| 9313 | C 3 |
| 9314 | D 2 |
| 9315 | C 2 |
| 9316 | C 2 |
| 9317 | C 5 |
| 9318 | A 6 |
| 9319 | A 6 |
| 9320 | B 9 |
| 9321 | A 6 |
| 9322 | B 7 |
| 9324 | A 7 |
| 9325 | B 7 |
| 9326 | B 6 |
| 9327 | B 6 |
| 9328 | D 5 |
| 9329 | B 2 |
| 9330 | B 1 |
| 9331 | A 1 |
| 9332 | A 1 |
| 9333 | A 1 |
| 9334 | B 1 |
| 9335 | B 2 |
| 9336 | B 8 |
| 9337 | A 2 |
| 9338 | A 2 |
| 9339 | A 2 |
| 9340 | B 3 |
| 9341 | A 2 |
| 9342 | D 6 |
| 9343 | B 2 |
| 9344 | B 9 |
| 9345 | A 3 |
| 9346 | A 3 |
| 9347 | B 2 |
| 9348 | B 7 |
| 9349 | A 2 |
| 9350 | B 3 |
| 9351 | B 7 |
| 9352 | D 5 |
| 9353 | B 2 |
| 9354 | A 1 |
| 9355 | B 1 |
| 9356 | A 2 |
| 9357 | C 9 |
| 9358 | C 9 |
| 9359 | B 9 |
| 9360 | B 8 |
| 9363 | B 9 |
| 9364 | C 7 |
| 9365 | A 9 |
| 9366 | A 9 |
| 9367 | A 9 |
| 9368 | B 9 |
| 9369 | A 7 |
| 9370 | A 7 |
| 9371 | C 6 |
| 9372 | B 8 |
| 9373 | B 7 |
| 9374 | B 8 |
| 9375 | A 8 |
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| 9378 | A 8 |
| 9380 | B 8 |
| 9381 | A 7 |
| 9382 | C 7 |
| 9383 | D 9 |
| 9384 | D 9 |
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| 9386 | D 8 |
| 9387 | D 8 |
| 9388 | D 8 |
| 9389 | D 8 |
| 9390 | C 5 |
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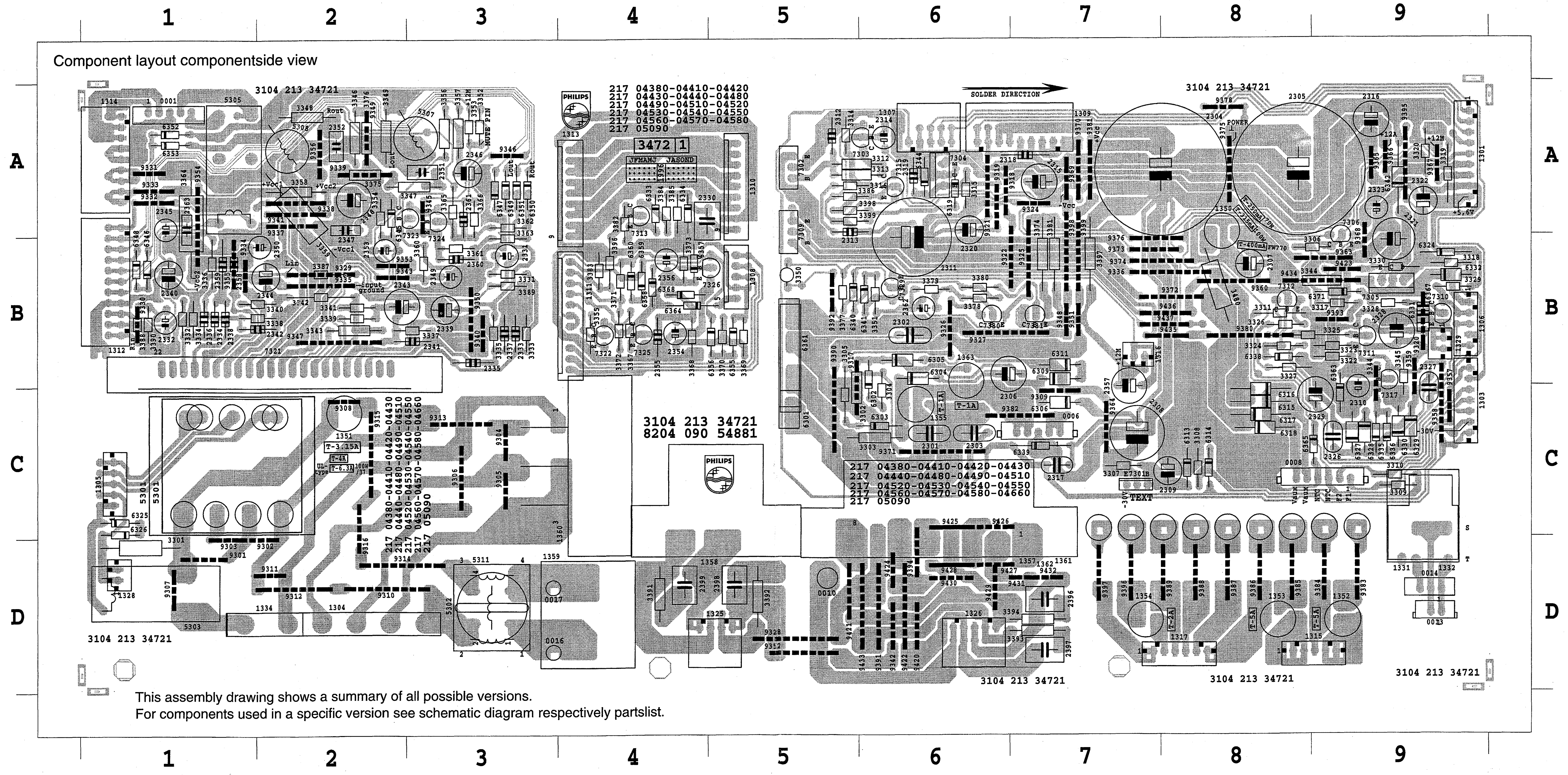
| 9399 | B 7 |
| 9420 | D 6 |
| 9421 | D 5 |
| 9422 | D 6 |
| 9423 | B 9 |
| 9424 | D 6 |
| 9425 | C 6 |
| 9426 | C 6 |
| 9427 | D 6 |
| 9428 | D 6 |
| 9429 | D 6 |
| 9430 | D 6 |
| 9431 | D 7 |
| 9432 | D 7 |
| 9433 | D 6 |
| 9434 | B 9 |
| 9435 | B 8 |
| 9436 | B 8 |
| 9437 | B 8 |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A
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3104 213 34721
SOLDER DIRECTION
PHILIPS
217 04380-04410-04420
217 04430-04440-04480
217 04490-04510-04520
217 04530-04540-04550
217 04560-04570-04580
217 05090
3472 1
3104 213 34721
8204 090 54881
217 04380-04410-04420-04430
217 04440-04480-04490-04510
217 04520-04530-04540-04550
217 04560-04570-04580-04660
217 05090
POWER
TEXT
+5,6V
MUTE PIN
Rout
Lout
Lin
+Vcc1
-Vcc1
+Vcc2
-Vcc2
input ground
T-3.15A
T-4A
T-6.3A
T-1A
T-2A
T-5A

Component layout componentside view

This assembly drawing shows a summary of all possible versions.
For components used in a specific version see schematic diagram respectively partslist.

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0001 | C26 | 1307 | I16 | 1313 | D19 | 1326 | F27 | 1351 | J 2 | 1359 | H 1 | 2301 | B 9 | 2309 | F11 |
| 0006 | A 8 | 1308 | I17 | 1314 | D20 | 1328 | D 4 | 1352 | A 7 | 1359 | E 1 | 2302 | B 9 | 2311 | I10 |
| 0008 | F 8 | 1309 | E16 | 1315 | A 7 | 1329 | E 8 | 1353 | D 7 | 1360 | K 4 | 2303 | B11 | 2312 | H10 |
| 1301 | J16 | 1310 | E17 | 1316 | A17 | 1334 | E 4 | 1354 | G 7 | 1361 | G31 | 2304 | B11 | 2313 | I11 |
| 1303 | D15 | 1311 | J19 | 1317 | F 7 | 1334 | B 4 | 1355 | C 9 | 1362 | A31 | 2305 | C11 | 2314 | J11 |
| 1304 | H 4 | 1312 | J20 | 1326 | C27 | 1350 | J10 | 1359 | B 1 | 1363 | D 9 | 2308 | E10 | 2315 | G12 |

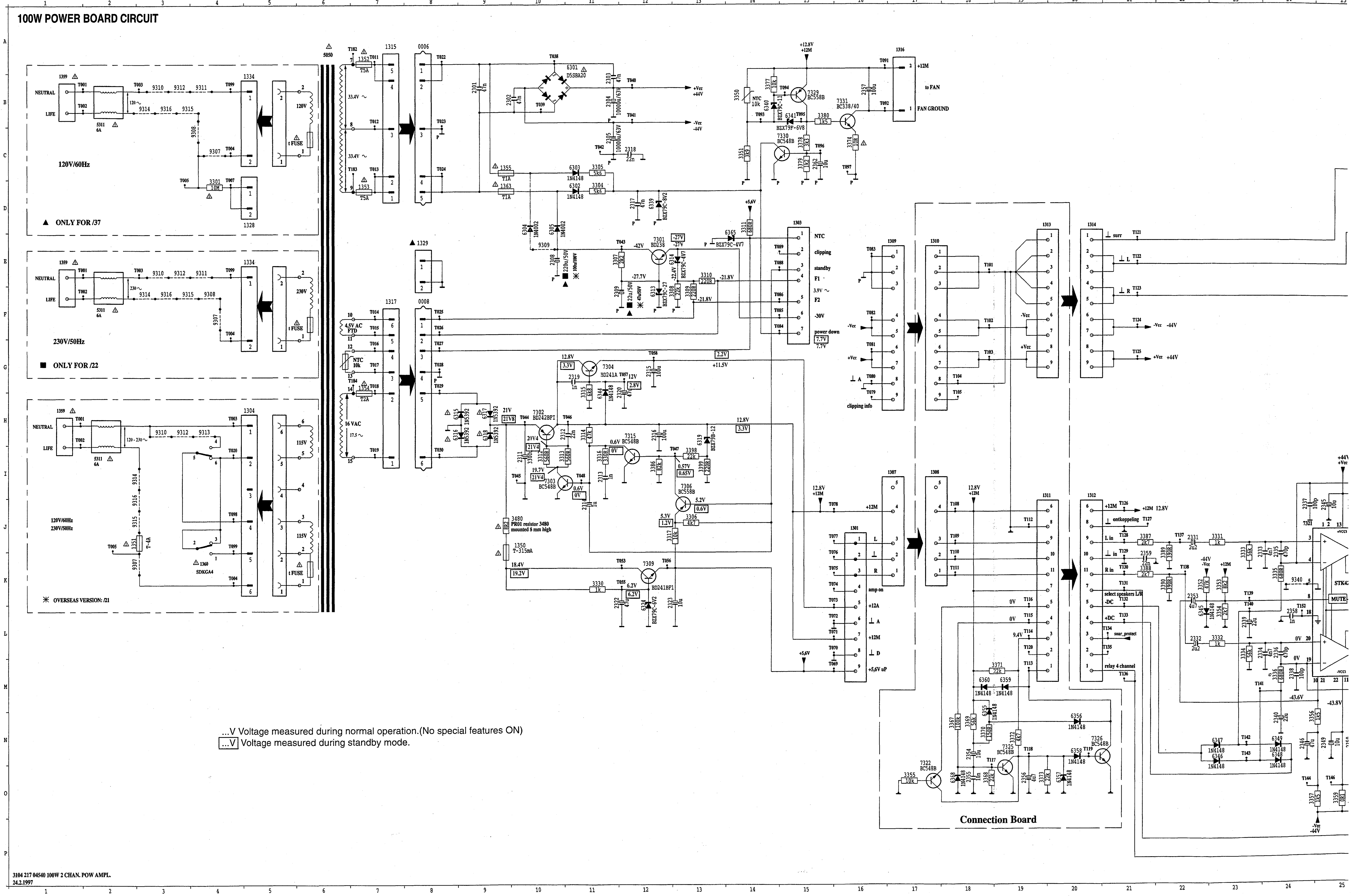
| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2316 | H12 | 2323 | K12 | 2336 | L24 | 2342 | M26 | 2348 | J26 | 2354 | N18 | 2360 | O25 | 2397 | D28 |
| 2317 | D12 | 2331 | J22 | 2337 | J24 | 2343 | K26 | 2349 | N25 | 2355 | O18 | 2361 | O27 | 3301 | D 4 |
| 2318 | C12 | 2332 | L22 | 2338 | M24 | 2344 | L26 | 2350 | N25 | 2356 | O19 | 2362 | C15 | 3304 | D11 |
| 2319 | G11 | 2333 | K23 | 2339 | L23 | 2345 | J25 | 2351 | K26 | 2357 | B16 | 2396 | F28 | 3305 | C11 |
| 2320 | H12 | 2334 | L23 | 2340 | N24 | 2346 | N24 | 2352 | M26 | 2358 | L24 | 2396 | I28 | 3306 | J13 |
| 2322 | K11 | 2335 | K24 | 2341 | I26 | 2347 | J26 | 2353 | K22 | 2359 | K21 | 2397 | H28 | 3307 | E11 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3308 | F13 | 3314 | H11 | 3332 | L23 | 3338 | M26 | 3346 | M26 | 3352 | K22 | 3358 | J25 | 3364 | O26 |
| 3309 | F13 | 3315 | H11 | 3333 | K23 | 3339 | K26 | 3347 | K26 | 3353 | K23 | 3359 | O25 | 3365 | O27 |
| 3310 | E13 | 3316 | I11 | 3334 | L23 | 3340 | L26 | 3348 | M27 | 3354 | L23 | 3360 | O25 | 3366 | O27 |
| 3311 | D14 | 3317 | J12 | 3335 | K24 | 3341 | K26 | 3349 | K27 | 3355 | O17 | 3361 | O26 | 3367 | N18 |
| 3312 | I10 | 3330 | K11 | 3336 | M24 | 3342 | L26 | 3350 | B14 | 3356 | N24 | 3362 | N29 | 3368 | O18 |
| 3313 | I10 | 3331 | J23 | 3337 | I26 | 3343 | K26 | 3351 | C14 | 3357 | O24 | 3363 | N28 | 3369 | N18 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3370 | N18 | 3376 | N26 | 3387 | J21 | 3394 | H28 | 5305 | P29 | 6301 | A11 | 6314 | E13 | 6324 | L12 |
| 3371 | M19 | 3377 | B14 | 3388 | K21 | 3394 | E28 | 5307 | J27 | 6302 | D11 | 6315 | H 8 | 6339 | D12 |
| 3372 | N19 | 3378 | C15 | 3389 | K22 | 3398 | I13 | 5308 | L27 | 6303 | C11 | 6316 | H 8 | 6340 | B14 |
| 3373 | O19 | 3379 | C15 | 3390 | K22 | 3399 | I13 | 5311 | I 2 | 6304 | D10 | 6317 | H 9 | 6341 | B15 |
| 3374 | C16 | 3380 | B15 | 3393 | G28 | 3480 | J10 | 5311 | F 2 | 6305 | D10 | 6318 | H 9 | 6344 | H11 |
| 3375 | L26 | 3386 | I12 | 3393 | D28 | 5305 | J29 | 5311 | B 2 | 6313 | F12 | 6319 | H13 | 6345 | L22 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6346 | N23 | 6355 | N18 | 6365 | E14 | 7306 | I13 | 7324 | O28 | 9307 | |
| 6347 | N23 | 6356 | N20 | 6368 | O18 | 7309 | K12 | 7325 | N19 | 9307 | |
| 6348 | N24 | 6357 | O20 | 7301 | E12 | 7315 | H12 | 7326 | N20 | 9307 | |
| 6349 | N24 | 6358 | N20 | 7302 | H10 | 7321 | J24 | 7329 | B15 | 9308 | |
| 6350 | M28 | 6359 | M19 | 7303 | I10 | 7322 | O17 | 7330 | C15 | 9308 | |
| 6351 | M28 | 6360 | M18 | 7304 | G11 | 7323 | O26 | 7331 | B16 | 9309 | |

## 100W POWER BOARD CIRCUIT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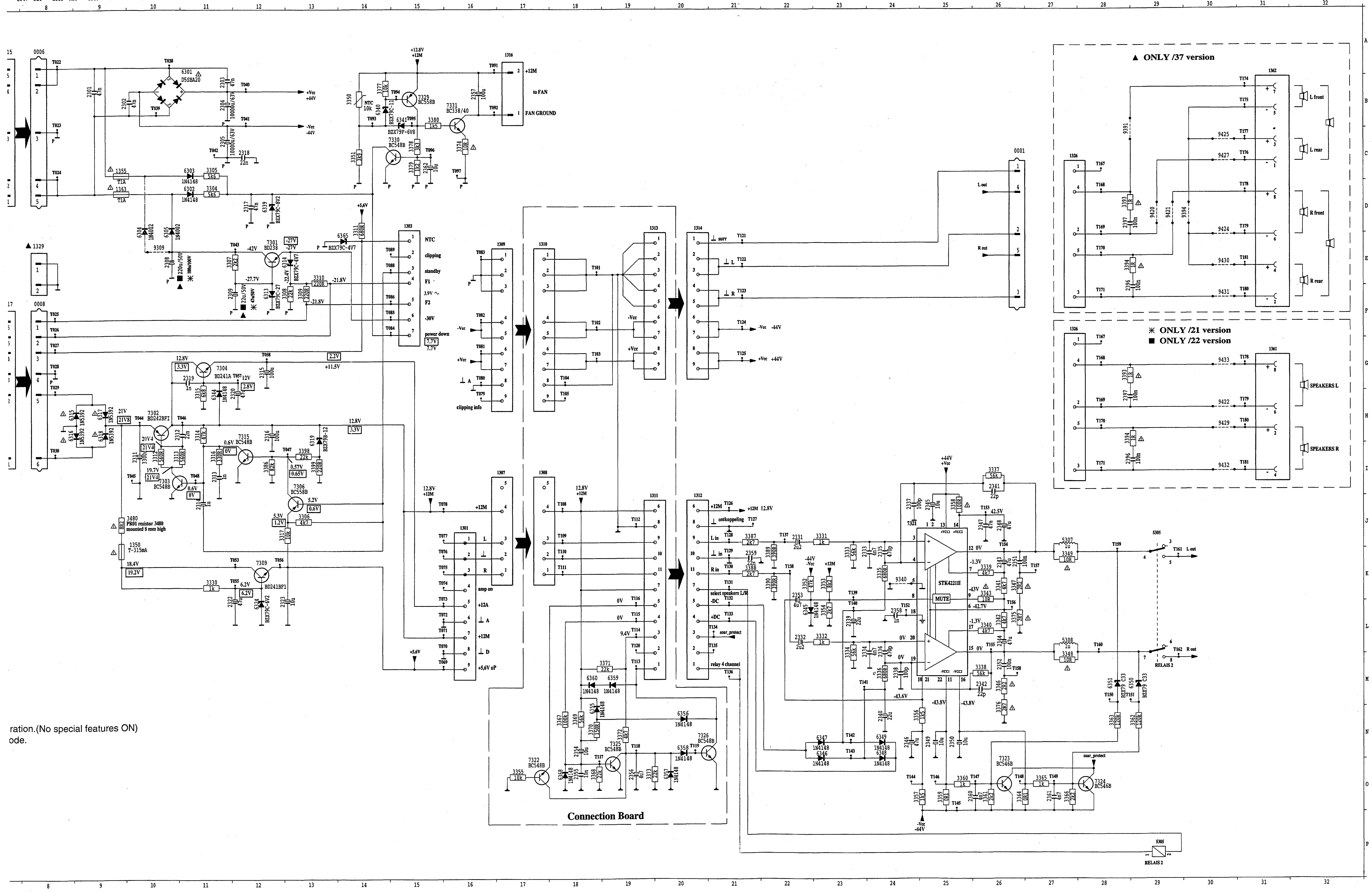
P
NEUTRAL
LIFE
1359
1334
1328
5311 6A
9310
9312
9311
9314
9316
9315
9308
9307
3301 10M
120V
t FUSE
120V/60Hz
▲ ONLY FOR /37
230V
230V/50Hz
■ ONLY FOR /22
1304
9313
120 - 230 ~
115V
120V/60Hz
230V/50Hz
T-4A
1360 SDKGA4
✳ OVERSEAS VERSION: /21
5050
1352 T5A
1315
0006
33.4V ~
1353 T5A
1329
1317
0008
4.5V AC FTD
NTC 10k
1354 T2A
16 VAC
17.5 ~
6301 D5SBA20
2301 47n
2302 47n
2303 47n
2304 10000u/63V
2305 10000u/63V
2318 22n
+Vcc +44V
-Vcc -44V
1355 T1A
1363 T1A
6303 1N4148
6302 1N4148
3305 5k6
3304 5k6
2317 47n
6339 BZX79C-8V2
6304 1N4002
6305 1N4002
9309
2308 220u/50V
7301 BD238
-42V
-27V
3307 2k7
6314 BZX79C-4V7
-27.7V
-22.4V
2309 22u/50V
6313 BZX79C-27
3308 22k
3309 220R
3310 220R
-21.8V
6365 BZX79C-4V7
3311 680R
+5.6V
1303
NTC
clipping
standby
F1
3.9V ~
F2
-30V
power down
7.7V
12.8V
3.3V
7304 BD241A
2319 1n
3315 68R
6324 1N4148
12V
2.8V
2315 100u
2.2V
+11.5V
21V
21V8
7302 BD242BP1
6315 1N5392
6316 1N5392
6317 1N5392
6318 1N5392
20V4
21V4
19.7V
2311
2312 22n
3312 560R
3313 560R
3314 470R
7315 BC548B
0.6V
2316 100u
6319 BZX79B-12
12.8V
3.3V
3316 330R
0V
2313 1n
3386 82k
0.57V
0.65V
3398 22k
3399 220R
7303 BC548B
0.6V
7306 BC558B
5.2V
0.6V
5.3V
1.2V
3306 4k7
3317 10k
3480 PR01 resistor 3480 mounted 8 mm high
1350 T-315mA
18.4V
19.2V
7309 BD241BF1
3330 1k
6.2V
2322
6324 BZX79C-6V2
2323 10u
+12.8V +12M
1316
+12M
to FAN
FAN GROUND
3350 NTC 10k
3377 10k
7329 BC558B
2357 100u
6340 BZX79C-11
6341 BZX79F-6V8
3380 1k5
7331 BC338/40
7330 BC548B
3378 3k3
3379 1k2
2362 10u
3374 10R
3351 1k8
1309
1310
1313
1314
surr
L
R
-Vcc -44V
+Vcc +44V
clipping info
1307
1308
1301
1311
1312
L
R
amp on
+12A
A
+12M
D
+5,6V uP
+12M 12.8V
ontkoppeling
L in
3387 2k7
2359 22n
R in
3388 2k7
3389 390R
3390 390R
select speakers L/R
-DC
+DC
soar_protect
relay 4 channel
3371 22k
6360 1N4148
6359 1N4148
6355 1N4148
6356 1N4148
3367 100k
3369 56k
3370 150R
3372 4k7
7325 BC548B
7326 BC548B
6358 1N4148
6357 1N4148
7322 BC548B
3355 10k
6368 1N4148
2354 10u
2355 10u
3368 22k
2356 4u7
3373 22k
Connection Board
2331 2u2
3331 1k
3333 56k
2333 4n7
2337 100p
2341 470p
3335 680R
9340
STK4
MUTE
2332 2u2
3332 1k
3334 56k
2334 4n7
2336 470p
3336 680R
2358 1n
-44V -Vcc
+12M
3352 47k
3353 8k2
3354 2k2
6345 1N4148
2339 22u
2353 4u7
-43.6V
-43.8V
2340 22u
3356 1k5
6347 1N4148
6346 1N4148
6349 1N4148
6348 1N4148
2346 47u
2349 10u
3357 1k5
-Vcc -44V
+44V +Vcc

...V Voltage measured during normal operation.(No special features ON)

☐V Voltage measured during standby mode.

| | |
|---|---|
| 2342 | M26 |
| 2343 | K26 |
| 2344 | L26 |
| 2345 | J25 |
| 2346 | N24 |
| 2347 | J26 |
| 2348 | J26 |
| 2349 | N25 |
| 2350 | N25 |
| 2351 | K26 |
| 2352 | M26 |
| 2353 | K22 |
| 2354 | N18 |
| 2355 | O18 |
| 2356 | O19 |
| 2357 | B16 |
| 2358 | L24 |
| 2359 | K21 |
| 2360 | O25 |
| 2361 | O27 |
| 2362 | C15 |
| 2396 | F28 |
| 2396 | I28 |
| 2397 | H28 |
| 2397 | D28 |
| 3301 | D 4 |
| 3304 | D11 |
| 3305 | C11 |
| 3306 | J13 |
| 3307 | E11 |
| 3308 | F13 |
| 3309 | F13 |
| 3310 | E13 |
| 3311 | D14 |
| 3312 | I10 |
| 3313 | I10 |
| 3314 | H11 |
| 3315 | H11 |
| 3316 | I11 |
| 3317 | J12 |
| 3330 | K11 |
| 3331 | J23 |
| 3332 | L23 |
| 3333 | K23 |
| 3334 | L23 |
| 3335 | K24 |
| 3336 | M24 |
| 3337 | I26 |
| 3338 | M26 |
| 3339 | K26 |
| 3340 | L26 |
| 3341 | K26 |
| 3342 | L26 |
| 3343 | K26 |
| 3346 | M26 |
| 3347 | K26 |
| 3348 | M27 |
| 3349 | K27 |
| 3350 | B14 |
| 3351 | C14 |
| 3352 | K22 |
| 3353 | K23 |
| 3354 | L23 |
| 3355 | O17 |
| 3356 | N24 |
| 3357 | O24 |
| 3358 | J25 |
| 3359 | O25 |
| 3360 | O25 |
| 3361 | O26 |
| 3362 | N29 |
| 3363 | N28 |
| 3364 | O26 |
| 3365 | O27 |
| 3366 | O27 |
| 3367 | N18 |
| 3368 | O18 |
| 3369 | N18 |
| 3370 | N18 |
| 3371 | M19 |
| 3372 | N19 |
| 3373 | O19 |
| 3374 | C16 |
| 3375 | L26 |
| 3376 | N26 |
| 3377 | B14 |
| 3378 | C15 |
| 3379 | C15 |
| 3380 | B15 |
| 3386 | I12 |
| 3387 | J21 |
| 3388 | K21 |
| 3389 | K22 |
| 3390 | K22 |
| 3393 | G28 |
| 3393 | D28 |
| 3394 | H28 |
| 3394 | E28 |
| 3398 | I13 |
| 3399 | I13 |
| 3480 | J10 |
| 5305 | J29 |
| 5305 | P29 |
| 5307 | J27 |
| 5308 | L27 |
| 5311 | I 2 |
| 5311 | F 2 |
| 5311 | B 2 |
| 6301 | A11 |
| 6302 | D11 |
| 6303 | C11 |
| 6304 | D10 |
| 6305 | D10 |
| 6313 | F12 |
| 6314 | E13 |
| 6315 | H 8 |
| 6316 | H 8 |
| 6317 | H 9 |
| 6318 | H 9 |
| 6319 | H13 |
| 6324 | L12 |
| 6339 | D12 |
| 6340 | B14 |
| 6341 | B15 |
| 6344 | H11 |
| 6345 | L22 |
| 6346 | N23 |
| 6347 | N23 |
| 6348 | N24 |
| 6349 | N24 |
| 6350 | M28 |
| 6351 | M28 |
| 6355 | N18 |
| 6356 | N20 |
| 6357 | O20 |
| 6358 | N20 |
| 6359 | M19 |
| 6360 | M18 |
| 6365 | E14 |
| 6368 | O18 |
| 7301 | E12 |
| 7302 | H10 |
| 7303 | I10 |
| 7304 | G11 |
| 7306 | I13 |
| 7309 | K12 |
| 7315 | H12 |
| 7321 | J24 |
| 7322 | O17 |
| 7323 | O26 |
| 7324 | O28 |
| 7325 | N19 |
| 7326 | N20 |
| 7329 | B15 |
| 7330 | C15 |
| 7331 | B16 |
| 9307 | C 4 |
| 9307 | F 4 |
| 9307 | K 2 |
| 9308 | F 4 |
| 9308 | C 4 |
| 9309 | E10 |
| 9310 | B 3 |
| 9310 | E 3 |
| 9310 | H 3 |
| 9311 | B 4 |
| 9311 | E 4 |
| 9312 | B 3 |
| 9312 | E 3 |
| 9312 | H 3 |
| 9313 | H 4 |
| 9314 | I 2 |
| 9314 | B 3 |
| 9314 | F 3 |
| 9315 | J 2 |
| 9315 | B 3 |
| 9315 | F 3 |
| 9316 | B 3 |
| 9316 | J 2 |
| 9316 | F 3 |
| 9340 | K24 |
| 9391 | C28 |
| 9394 | D30 |
| 9420 | D29 |
| 9421 | D29 |
| 9422 | H30 |
| 9424 | D30 |
| 9425 | C30 |
| 9427 | C30 |
| 9429 | H30 |
| 9430 | E30 |
| 9431 | F30 |
| 9432 | I30 |
| 9433 | G30 |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0006
0008
0001
▲ 1329
▲ ONLY /37 version
✳ ONLY /21 version
■ ONLY /22 version
L front
L rear
R front
R rear
SPEAKERS L
SPEAKERS R
1326
1361
1362
6301
D5SBA20
2303
10000u/63V
2304
10000u/63V
+Vcc
+44V
-Vcc
-44V
1355
T1A
1363
T1A
6303
1N4148
6302
1N4148
3305
5k6
3304
5k6
6304
1N4002
6305
1N4002
9309
7301
BD238
-42V
-27V
-27.7V
-21.8V
3310
220R
6365
BZX79C-4V7
+5,6V
3311
680R
1303
NTC
clipping
standby
F1
3.9V ∼
F2
-30V
power down
7.7V
+12.8V
+12M
3350
NTC
10k
6340
BZX79C-11
7329
BC558B
6341
BZX79F-6V8
3380
1k5
7331
BC338/40
3374
10R
7330
BC548B
1316
+12M
to FAN
FAN GROUND
L out
R out
1309
1310
1313
1314
surr
L
R
-Vcc -44V
+Vcc +44V
clipping info
1307
1308
1301
1311
1312
L
R
amp on
+12A
A
+12M
D
+5,6V uP
12.8V
12.8V
7304
BD241A
7302
BD242BPI
7303
BC548B
7315
BC548B
7306
BC558B
7309
BD241BPI
21V
21V8
19.7V
21V4
2.2V
+11.5V
3.3V
2.8V
0.6V
0V
0.57V
0.65V
5.2V
0.6V
5.3V
1.2V
3306
4K7
3398
22k
6310
BZX79B-12
3480
8R2
PR01 resistor 3480
mounted 8 mm high
1350
T-315mA
18.4V
19.2V
3330
1k
6.2V
6.2V
6324
BZX79C-6V2
+12M
12.8V
onkoppeling
L in
R in
select speakers L/R
-DC
+DC
soar_protect
relay 4 channel
3387
2K7
3388
2K7
3331
1k
3332
1k
+44V
+Vcc
3337
56k
2341
22p
7321
STK4221II
MUTE
9340
42.5V
-1.3V
-43V
-42.7V
-43.6V
-43.8V
-43.8V
3339
4K7
3343
10R
3340
4K7
3338
56k
5307
1u
3349
10R
5308
1u
3348
10R
5305
T161 L out
T162 R out
RELAIS 2
6351
BZX79 C33
6350
BZX79 C33
3363
120k
3362
120k
7323
BC546B
7324
BC546B
3360
1k
3365
1k
-Vcc
-44V
6347
1N4148
6346
1N4148
6349
1N4148
6348
1N4148
Connection Board
3371
22K
6360
1N4148
6359
1N4148
6356
1N4148
6358
1N4148
7322
BC548B
7325
BC548B
7326
BC548B
3355
10K
0V
9.4V

ration.(No special features ON)
ode.

## ELECTRICAL PARTS LIST -POWER BOARD

### MISCELLANEOUS

| | | |
|---|---|---|
| 1350 | 4822 252 51151 | Fuse T315MA /37 |
| 1350 | 4822 071 53151 | Fuse T315MA /21/22 |
| 1351 | 4822 071 54002 | Fuse T4A /21 |
| 1352 | 4822 071 55002 | Fuse 5A |
| 1353 | 4822 071 55002 | Fuse 5A |
| 1354 | 4822 071 52002 | Fuse 2A |
| 1355 | 4822 071 51002 | Fuse T1A |
| 1360 | 4822 272 10269 | Voltage Selector /21 |
| 1363 | 4822 071 51002 | Fuse T1A |
| 1359 | 4822 265 31015 | Mains socket |
| 5001 | 4822 361 10689 | DC Brushless fan |

### CAPACITORS

| | | |
|---|---|---|
| 2301 | 4822 121 43875 | 47NF 5% 250V |
| 2302 | 4822 121 43875 | 47NF 5% 250V |
| 2303 | 4822 121 43875 | 47NF5% 250V |
| 2304 | 4822 124 80565 | 10000UF 63V |
| 2305 | 4822 124 80565 | 10000UF 63V |
| 2308 | 5322 124 22094 | 220UF 50V /37 |
| 2308 | 4822 124 11505 | 100UF 100V /22/21 |
| 2309 | 4822 124 81151 | 22UF 50V /37 |
| 2309 | 4822 124 80196 | 47UF 50V /22/21 |
| 2311 | 4822 124 42367 | 3300UF 35V |
| 2312 | 4822 126 11585 | 22NF+80-20%Y5V 25V |
| 2313 | 4822 122 33197 | 1NF 10% 50V |
| 2314 | 4822 124 40242 | 1UF 20% 63V |
| 2315 | 4822 124 81029 | 100UF20% 25V |
| 2316 | 4822 124 81029 | 100UF20% 25V |
| 2317 | 4822 121 43526 | 47NF 5% 250V |
| 2318 | 4822 126 11585 | 22NF+80-20% Y5V 25V |
| 2319 | 4822 122 33197 | 1NF 10% 50V |
| 2320 | 4822 124 40433 | 47UF 20% 25V |
| 2322 | 4822 124 40433 | 47UF 20% 25V |
| 2323 | 4822 124 41579 | 10UF 20% 50V |
| 2330 | 5322 121 42386 | 100NF 5% 63V |
| 2331 | 4822 124 41576 | 2,2UF 20% 50V |
| 2332 | 4822 124 41576 | 2,2UF 20% 50V |
| 2333 | 4822 126 11714 | 4,7NF 20% |
| 2334 | 4822 126 11714 | 4,7NF 20% |
| 2335 | 4822 122 33519 | 470PF 10% 50V |
| 2336 | 4822 122 33519 | 470PF 10% 50V |
| 2337 | 4822 122 33195 | 100PF 10% 50V |
| 2338 | 4822 122 33195 | 100PF 10% 50V |
| 2339 | 4822 124 41596 | 22UF 20% 50V |
| 2340 | 4822 124 41596 | 22UF 20% 50V |
| 2341 | 4822 122 33191 | 22PF 5% 50V |
| 2342 | 4822 122 33191 | 22PF 5% 50V |
| 2343 | 4822 124 80196 | 47UF 20% 50V |
| 2344 | 4822 124 80196 | 47UF 20% 50V |
| 2345 | 4822 124 40248 | 10UF 63V |
| 2346 | 4822 124 80196 | 47UF 20% 50V |
| 2347 | 4822 121 43526 | 47NF 5% 250V |
| 2348 | 4822 124 41069 | 47UF 63V |
| 2349 | 4822 124 40248 | 10UF 63V |
| 2350 | 4822 124 40248 | 10UF 63V |
| 2351 | 5322 121 42386 | 100NF 5% 63V |
| 2352 | 5322 121 42386 | 100NF 5% 63V |
| 2353 | 4822 124 40246 | 4,7UF 20% 63V |
| 2354 | 4822 124 41579 | 10UF 20% 50V |
| 2355 | 4822 121 51387 | 10NF 20% 16V |
| 2356 | 4822 124 40246 | 4,7UF 20% 63V |
| 2357 | 4822 124 81029 | 100UF 20% 25V |
| 2358 | 4822 122 33197 | 1NF 10% 50V |
| 2359 | 4822 126 11585 | 22nF 20% |
| 2360 | 4822 126 11714 | 4,7NF 20% |
| 2361 | 4822 126 11714 | 4,7NF 20% |
| 2362 | 4822 124 41579 | 10UF 20% 50V |
| 2396 | 5322 121 42386 | 100NF 5% 63V |
| 2397 | 5322 121 42386 | 100NF 5% 63V |

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## ELECTRICAL PARTS LIST - POWER BOARD

### RESISTORS

| | | | | |
|---|---|---|---|---|
| 3301 | 4822 053 21106 | 10M | 5% | 0,5W /37 |
| 3304 | 4822 116 52289 | 5K6 | 5% | 0,5W |
| 3305 | 4822 116 52289 | 5K6 | 5% | 0,5W |
| 3306 | 4822 116 52283 | 4K7 | 5% | 0,5W |
| 3307 | 4822 116 52256 | 2K2 | 5% | 0,5W |
| 3308 | 4822 116 52257 | 22K | 5% | 0,5W |
| 3309 | 4822 116 83872 | 220R | 5% | 0,5W |
| 3310 | 4822 116 83872 | 220R | 5% | 0,5W |
| 3311 | 4822 116 52228 | 680R | 5% | 0,5W |
| 3312 | 4822 050 25601 | 560 | 1% | 0,6W |
| 3313 | 4822 050 25601 | 560 | 1% | 0,6W |
| 3314 | 4822 116 83884 | 47K | 5% | 0,5W |
| 3315 | 4822 116 83961 | 6K8 | 5% | |
| 3316 | 4822 116 52219 | 330R | 5% | 0,5W |
| 3317 | 4822 116 83864 | 10K | 5% | 0,5W |
| 3330 | 4822 050 11002 | 1R | 1% | 0,4W |
| 3331 | 4822 050 11002 | 1R | 1% | 0,4W |
| 3332 | 4822 050 11002 | 1R | 1% | 0,4W |
| 3333 | 4822 116 52291 | 56K | 5% | 0,5W |
| 3334 | 4822 116 52291 | 56K | 5% | 0,5W |
| 3335 | 4822 116 52228 | 680R | 5% | 0,5W |
| 3336 | 4822 116 52228 | 680R | 5% | 0,5W |
| 3337 | 4822 116 52291 | 56K | 5% | 0,5W |
| 3338 | 4822 116 52291 | 56K | 5% | 0,5W |
| 3339 | 4822 116 52283 | 4K7 | 5% | 0,5W |
| 3340 | 4822 116 52283 | 4K7 | 5% | 0,5W |
| 3341 | 4822 116 52283 | 4K7 | 5% | 0,5W |
| 3342 | 4822 116 52283 | 4K7 | 5% | 0,5W |
| 3343 | 4822 052 10109 | 10R | 5% | 0,33W |
| 3344 | 4822 053 10109 | 10R | 5% | 1W |
| 3346 | 4822 052 10228 | 2R2 | 5% | 0,33W |
| 3347 | 4822 052 10228 | 2R2 | 5% | 0,33W |
| 3348 | 4822 052 10109 | 10R | 5% | 0,33W |
| 3349 | 4822 052 10109 | 10R | 5% | 0,33W |
| 3350 | 4822 117 12063 | NTC DC 5W 10K 5% | | |
| 3351 | 4822 116 52276 | 3K9 | 5% | 0,5W |
| 3352 | 4822 116 83884 | 47K | 5% | 0,5W |
| 3353 | 4822 116 52303 | 8K2 | 5% | 0,5W |
| 3354 | 4822 116 52263 | 2K7 | 5% | 0,5W |
| 3355 | 4822 116 83864 | 10K | 5% | 0,5W |
| 3356 | 4822 050 21502 | 1K5 | 1% | 0,6W |
| 3357 | 4822 050 21502 | 1K5 | 1% | 0,6W |
| 3358 | 4822 052 10101 | 100R | 5% | 0,33W |
| 3359 | 4822 113 80633 | 0R1 | 5% | 3W |
| 3360 | 4822 050 11002 | 1R | 1% | 0,4W |
| 3361 | 4822 116 52256 | 2K2 | 5% | 0,5W |
| 3362 | 4822 116 52239 | 120K | 5% | 0,5W |
| 3363 | 4822 116 52239 | 120K | 5% | 0,5W |
| 3364 | 4822 113 80633 | 0R1 | 5% | 3W |
| 3365 | 4822 050 11002 | 1R | 1% | 0,4W |
| 3366 | 4822 116 52256 | 2K2 | | |
| 3367 | 4822 116 52234 | 100K | 5% | 0,5W |
| 3368 | 4822 116 52257 | 22K | 5% | 0,5W |
| 3369 | 4822 116 52291 | 56K | 5% | 0,5W |
| 3370 | 4822 116 83868 | 150R | 5% | 0,5W |
| 3371 | 4822 116 52257 | 22K | 5% | 0,5W |
| 3372 | 4822 116 52283 | 4K7 | 5% | 0,5W |
| 3373 | 4822 116 52257 | 22K | 5% | 0,5W |
| 3374 | 4822 052 10109 | 10R | 5% | 0,33W |
| 3375 | 4822 052 10278 | 2R7 | 5% | 0,33W |
| 3376 | 4822 052 10278 | 2R7 | 5% | 0,33W |
| 3377 | 4822 116 83864 | 10K | 5% | 0,5W |
| 3378 | 4822 116 52269 | 3K3 | 5% | 0,5W |
| 3379 | 4822 116 52207 | 1K2 | 5% | 0,5W |
| 3380 | 4822 116 52243 | 1K5 | 5% | 0,5W |
| 3382 | 4822 116 52234 | 100K | 5% | 0,5W |
| 3383 | 4822 116 52234 | 100K | 5% | 0,5W |
| 3384 | 4822 116 52283 | 4K7 | 5% | 0,5W |
| 3385 | 4822 116 52276 | 3K9 | 5% | 0,5W |
| 3386 | 4822 116 52304 | 82K | 5% | 0,5W |
| 3387 | 4822 116 52263 | 2K7 | 5% | 0,5W |
| 3388 | 4822 116 52263 | 2K7 | 5% | 0,5W |
| 3389 | 4822 116 52222 | 390R | 5% | 0,5W |
| 3390 | 4822 116 52222 | 390R | 5% | 0,5W |
| 3393 | 4822 052 10108 | 1R | 5% | 0,33W |
| 3394 | 4822 052 10108 | 1R | 5% | 0,33W |
| 3396 | 4822 116 52272 | 330K | 5% | 0,5W |
| 3398 | 4822 116 52257 | 22K | 5% | 0,5W |
| 3399 | 4822 116 83872 | 220R | 5% | 0,5W |
| 3480 | 4822 053 11159 | 15R | 5% | 2W |

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## ELECTRICAL PAR

### COILS

| | |
|---|---|
| 5305 | 4822 280 8 |
| 5307 | 4822 157 7 |
| 5308 | 4822 157 7 |
| 5311 | 4822 157 1 |

### DIODES

| | |
|---|---|
| 6301 | 4822 130 8 |
| 6302 | 4822 130 3 |
| 6303 | 4822 130 3 |
| 6304 | 5322 130 3 |
| 6305 | 5322 130 3 |
| 6313 | 4822 130 3 |
| 6314 | 4822 130 3 |
| 6315 | 5322 130 8 |
| 6316 | 5322 130 8 |
| 6317 | 5322 130 8 |
| 6318 | 5322 130 8 |
| 6319 | 4822 130 3 |
| 6324 | 4822 130 3 |
| 6333 | 5322 130 3 |
| 6334 | 4822 130 3 |
| 6339 | 4822 130 3 |
| 6340 | 4822 130 3 |
| 6341 | 4822 130 3 |
| 6344 | 4822 130 3 |
| 6345 | 4822 130 3 |
| 6346 | 4822 130 3 |
| 6347 | 4822 130 3 |
| 6348 | 4822 130 3 |
| 6349 | 4822 130 3 |
| 6350 | 4822 130 3 |
| 6351 | 4822 130 3 |
| 6352 | 4822 130 3 |
| 6353 | 4822 130 3 |
| 6355 | 4822 130 3 |
| 6356 | 4822 130 3 |
| 6357 | 4822 130 3 |
| 6358 | 4822 130 3 |
| 6359 | 4822 130 3 |
| 6360 | 4822 130 3 |
| 6365 | 4822 130 3 |
| 6368 | 4822 130 3 |

## *ELECTRICAL PARTS LIST - POWER BOARD*

### RESISTORS

| | | |
|---|---|---|
| 3301 | 4822 053 21106 | 10M 5% 0,5W /37 |
| 3304 | 4822 116 52289 | 5K6 5% 0,5W |
| 3305 | 4822 116 52289 | 5K6 5% 0,5W |
| 3306 | 4822 116 52283 | 4K7 5% 0,5W |
| 3307 | 4822 116 52256 | 2K2 5% 0,5W |
| 3308 | 4822 116 52257 | 22K 5% 0,5W |
| 3309 | 4822 116 83872 | 220R 5% 0,5W |
| 3310 | 4822 116 83872 | 220R 5% 0,5W |
| 3311 | 4822 116 52228 | 680R 5% 0,5W |
| 3312 | 4822 050 25601 | 560 1% 0,6W |
| 3313 | 4822 050 25601 | 560 1% 0,6W |
| 3314 | 4822 116 83884 | 47K 5% 0,5W |
| 3315 | 4822 116 83961 | 6K8 5% |
| 3316 | 4822 116 52219 | 330R 5% 0,5W |
| 3317 | 4822 116 83864 | 10K 5% 0,5W |
| 3330 | 4822 050 11002 | 1R 1% 0,4W |
| 3331 | 4822 050 11002 | 1R 1% 0,4W |
| 3332 | 4822 050 11002 | 1R 1% 0,4W |
| 3333 | 4822 116 52291 | 56K 5% 0,5W |
| 3334 | 4822 116 52291 | 56K 5% 0,5W |
| 3335 | 4822 116 52228 | 680R 5% 0,5W |
| 3336 | 4822 116 52228 | 680R 5% 0,5W |
| 3337 | 4822 116 52291 | 56K 5% 0,5W |
| 3338 | 4822 116 52291 | 56K 5% 0,5W |
| 3339 | 4822 116 52283 | 4K7 5% 0,5W |
| 3340 | 4822 116 52283 | 4K7 5% 0,5W |
| 3341 | 4822 116 52283 | 4K7 5% 0,5W |
| 3342 | 4822 116 52283 | 4K7 5% 0,5W |
| 3343 | 4822 052 10109 | 10R 5% 0,33W |
| 3344 | 4822 053 10109 | 10R 5% 1W |
| 3346 | 4822 052 10228 | 2R2 5% 0,33W |
| 3347 | 4822 052 10228 | 2R2 5% 0,33W |
| 3348 | 4822 052 10109 | 10R 5% 0,33W |
| 3349 | 4822 052 10109 | 10R 5% 0,33W |
| 3350 | 4822 117 12063 | NTC DC 5W 10K 5% |
| 3351 | 4822 116 52276 | 3K9 5% 0,5W |
| 3352 | 4822 116 83884 | 47K 5% 0,5W |
| 3353 | 4822 116 52303 | 8K2 5% 0,5W |
| 3354 | 4822 116 52263 | 2K7 5% 0,5W |
| 3355 | 4822 116 83864 | 10K 5% 0,5W |
| 3356 | 4822 050 21502 | 1K5 1% 0,6W |
| 3357 | 4822 050 21502 | 1K5 1% 0,6W |
| 3358 | 4822 052 10101 | 100R 5% 0,33W |
| 3359 | 4822 113 80633 | 0R1 5% 3W |
| 3360 | 4822 050 11002 | 1R 1% 0,4W |
| 3361 | 4822 116 52256 | 2K2 5% 0,5W |
| 3362 | 4822 116 52239 | 120K 5% 0,5W |
| 3363 | 4822 116 52239 | 120K 5% 0,5W |
| 3364 | 4822 113 80633 | 0R1 5% 3W |
| 3365 | 4822 050 11002 | 1R 1% 0,4W |
| 3366 | 4822 116 52256 | 2K2 |
| 3367 | 4822 116 52234 | 100K 5% 0,5W |
| 3368 | 4822 116 52257 | 22K 5% 0,5W |
| 3369 | 4822 116 52291 | 56K 5% 0,5W |
| 3370 | 4822 116 83868 | 150R 5% 0,5W |
| 3371 | 4822 116 52257 | 22K 5% 0,5W |
| 3372 | 4822 116 52283 | 4K7 5% 0,5W |
| 3373 | 4822 116 52257 | 22K 5% 0,5W |
| 3374 | 4822 052 10109 | 10R 5% 0,33W |
| 3375 | 4822 052 10278 | 2R7 5% 0,33W |
| 3376 | 4822 052 10278 | 2R7 5% 0,33W |
| 3377 | 4822 116 83864 | 10K 5% 0,5W |
| 3378 | 4822 116 52269 | 3K3 5% 0,5W |
| 3379 | 4822 116 52207 | 1K2 5% 0,5W |
| 3380 | 4822 116 52243 | 1K5 5% 0,5W |
| 3382 | 4822 116 52234 | 100K 5% 0,5W |
| 3383 | 4822 116 52234 | 100K 5% 0,5W |
| 3384 | 4822 116 52283 | 4K7 5% 0,5W |
| 3385 | 4822 116 52276 | 3K9 5% 0,5W |
| 3386 | 4822 116 52304 | 82K 5% 0,5W |
| 3387 | 4822 116 52263 | 2K7 5% 0,5W |
| 3388 | 4822 116 52263 | 2K7 5% 0,5W |
| 3389 | 4822 116 52222 | 390R 5% 0,5W |
| 3390 | 4822 116 52222 | 390R 5% 0,5W |
| 3393 | 4822 052 10108 | 1R 5% 0,33W |
| 3394 | 4822 052 10108 | 1R 5% 0,33W |
| 3396 | 4822 116 52272 | 330K 5% 0,5W |
| 3398 | 4822 116 52257 | 22K 5% 0,5W |
| 3399 | 4822 116 83872 | 220R 5% 0,5W |
| 3480 | 4822 053 11159 | 15R 5% 2W |

## *ELECTRICAL PARTS LIST - POWER BOARD*

### COILS

| | | |
|---|---|---|
| 5305 | 4822 280 80777 | Relay 2P 12V 5A |
| 5307 | 4822 157 70599 | Ind. fixed Bead EMI |
| 5308 | 4822 157 70599 | Ind. fixed Bead EMI |
| 5311 | 4822 157 10417 | MAIN CHOKE 6A /21 |

### DIODES

| | | |
|---|---|---|
| 6301 | 4822 130 82078 | D5SBA20 |
| 6302 | 4822 130 30621 | 1N4148 |
| 6303 | 4822 130 30621 | 1N4148 |
| 6304 | 5322 130 30684 | 1N4002GP |
| 6305 | 5322 130 30684 | 1N4002GP |
| 6313 | 4822 130 34379 | BZX79-C27 |
| 6314 | 4822 130 34174 | BZX79-C4V7 |
| 6315 | 5322 130 80686 | 1N5392 |
| 6316 | 5322 130 80686 | 1N5392 |
| 6317 | 5322 130 80686 | 1N5392 |
| 6318 | 5322 130 80686 | 1N5392 |
| 6319 | 4822 130 34197 | BZX79-B12 |
| 6324 | 4822 130 34167 | BZX79-C6V2 |
| 6333 | 5322 130 34563 | BZX79-C2V7 |
| 6334 | 4822 130 34174 | BZX79-C4V7 |
| 6339 | 4822 130 34382 | BZX79-C8V2 |
| 6340 | 4822 130 34488 | BZX79-C11 |
| 6341 | 4822 130 34278 | BZX79-F6V8 |
| 6344 | 4822 130 30621 | 1N4148 |
| 6345 | 4822 130 30621 | 1N4148 |
| 6346 | 4822 130 30621 | 1N4148 |
| 6347 | 4822 130 30621 | 1N4148 |
| 6348 | 4822 130 30621 | 1N4148 |
| 6349 | 4822 130 30621 | 1N4148 |
| 6350 | 4822 130 34142 | BZX79-C33 |
| 6351 | 4822 130 34142 | BZX79-C33 |
| 6352 | 4822 130 30842 | BAV21 |
| 6353 | 4822 130 30842 | BAV21 |
| 6355 | 4822 130 30621 | 1N4148 |
| 6356 | 4822 130 30621 | 1N4148 |
| 6357 | 4822 130 30621 | 1N4148 |
| 6358 | 4822 130 30621 | 1N4148 |
| 6359 | 4822 130 30621 | 1N4148 |
| 6360 | 4822 130 30621 | 1N4148 |
| 6365 | 4822 130 34174 | BZX79-C4V7 |
| 6368 | 4822 130 30621 | 1N4148 |

### TRANSISTORS

| | | |
|---|---|---|
| 7301 | 4822 130 40917 | BD238 |
| 7302 | 4822 130 63575 | BD242BFI |
| 7303 | 4822 130 40937 | BC548B |
| 7304 | 4822 130 63539 | BD241A |
| 7305 | 4822 130 63539 | BD241A |
| 7306 | 4822 130 44197 | BC558B |
| 7313 | 4822 130 41691 | BC556B |
| 7315 | 4822 130 40937 | BC548B |
| 7321 | 4822 209 13158 | STK4221II |
| 7322 | 4822 130 40937 | BC548B |
| 7323 | 4822 130 44461 | BC546B |
| 7324 | 4822 130 44461 | BC546B |
| 7325 | 4822 130 40937 | BC548B |
| 7326 | 4822 130 40937 | BC548B |
| 7329 | 4822 130 44197 | BC558B |
| 7330 | 4822 130 40937 | BC548B |
| 7331 | 5322 130 44779 | BC338-40 |

Note : Only the parts mentioned in this list are normal service spare parts.

# AF3 BOARD

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## BRIEF INTRODUCTION OF AF3 BOARD

The AF3 Board consists of the following:

a. SOFAC IC which includes functions such as source selection, loudness control, dynamic bass control, treble control, front/rear volume control and muting function. Sound features such as DBB, DSC, and IS are controllable via I$^2$C data from the microprocessor.
The SOFAC IC caters for 4 input sources namely Tuner, Tape, CD and AUX.

b. Karaoke Mic Mixing
NK: Non-Karaoke
SK: Simple Karaoke which caters for mic. mixing with additional mic. amplifier board.
FK: Full Karaoke with vocal fader and echo effect with additional Karaoke Board.

c. Dolby Pro-Logic interface
It caters for DPL and also DPL with one of the Karaoke functions.

d. Line out provision

e. Sub-woofer output with cinch socket for connection to active sub-woofer speaker.

f. Incredible Surround effect using transistor circuit to create phase shifting and spatial effect.

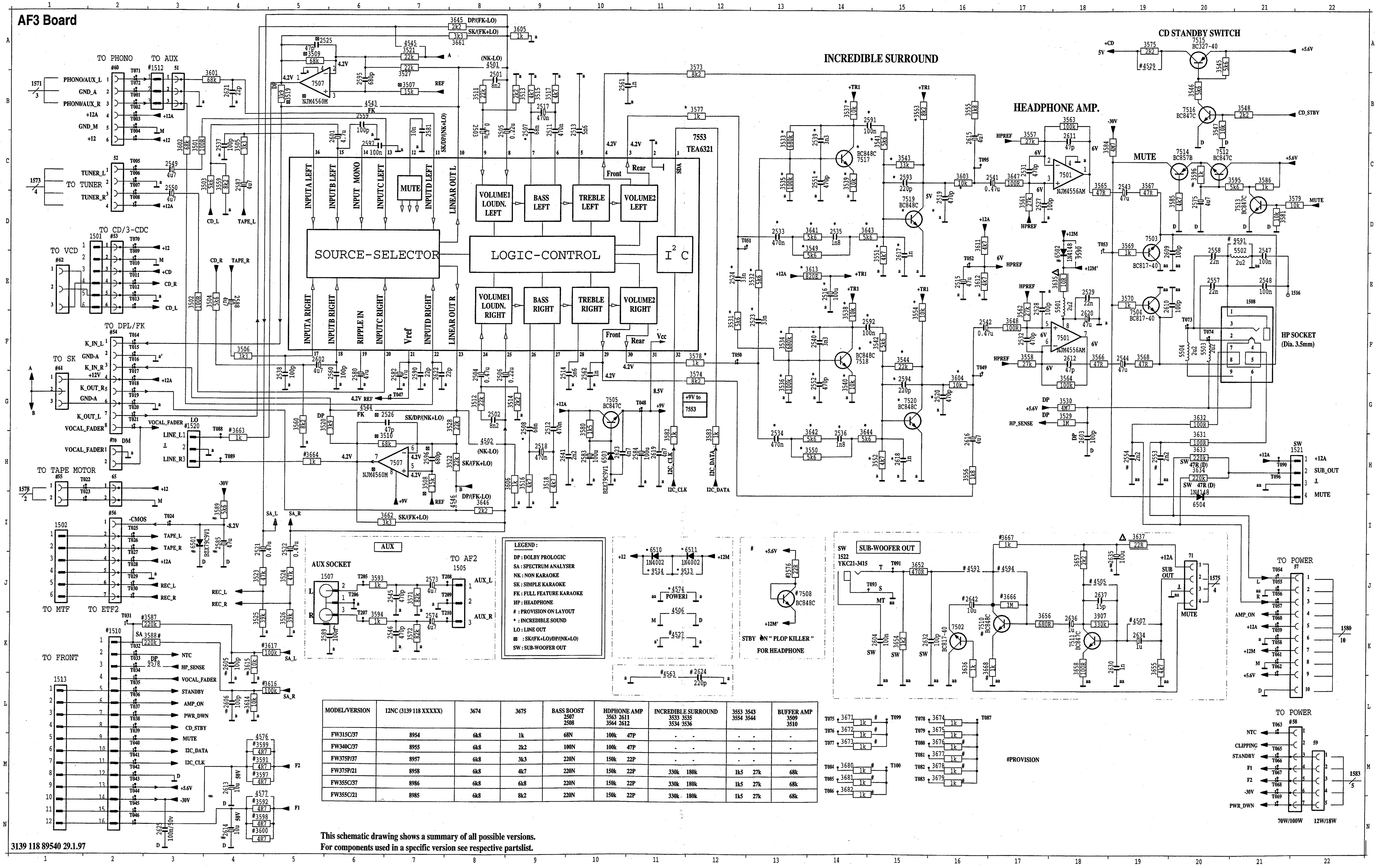
g. Headphone amplifier using Op-Amp. NJM4456M

h. CD Standby control circuit which switches on the supply to CD Servo control IC, HF circuit and the laser light pen in CD mode only.

i. Headphone Sensing circuit to mute centre and surround channels in DPL application.

j. Attenuation network is provided at the output of the AF3 Board for interfacing with power board of different output power.

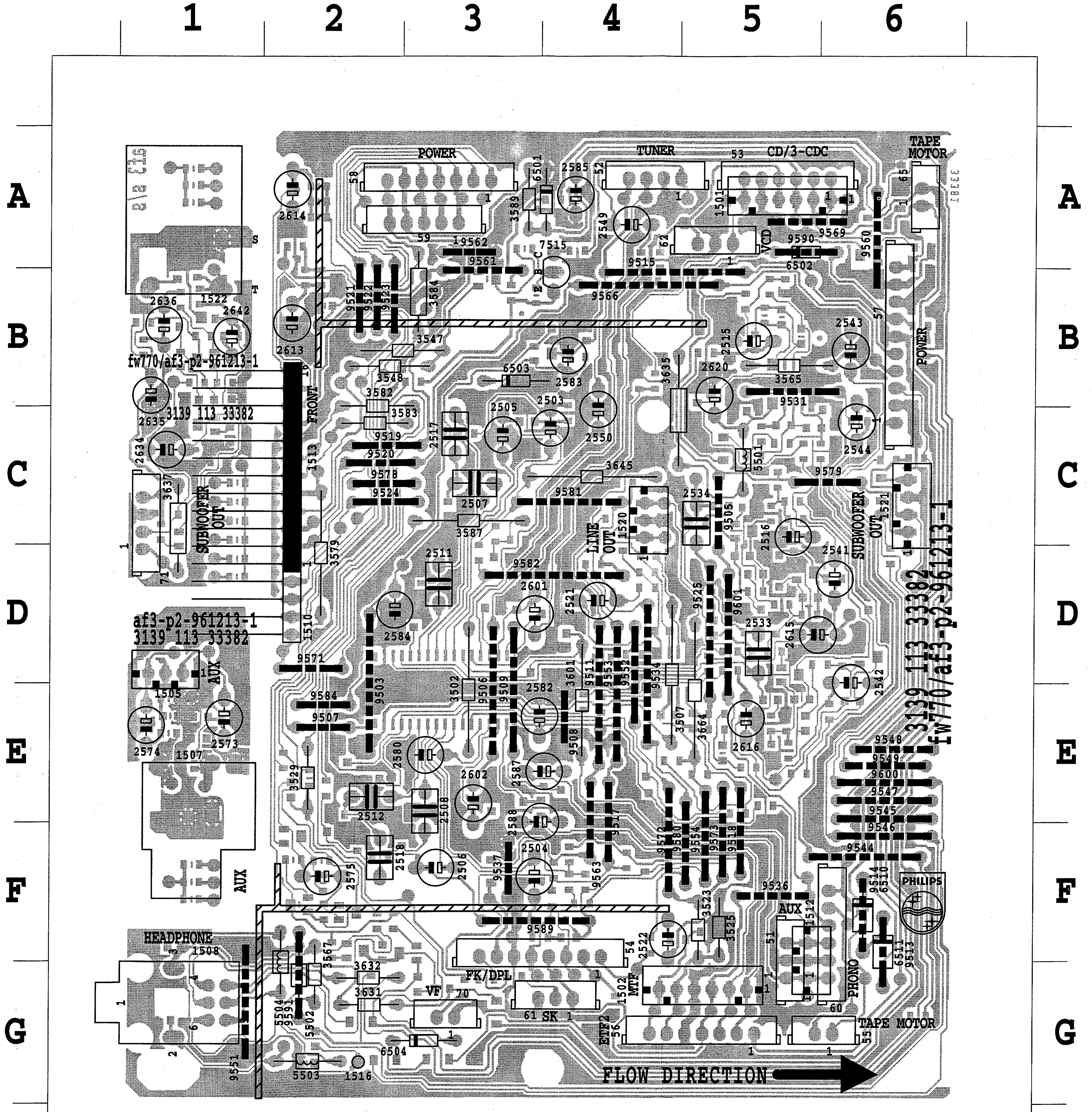
| | |
|---|---|
| 1501 | D 2 |
| 1502 | I 1 |
| 1505 | J 8 |
| 1507 | J 5 |
| 1508 | E21 |
| 1510 | K 2 |
| 1512 | A 3 |
| 1513 | L 1 |
| 1516 | E21 |
| 1520 | G 4 |
| 1521 | H21 |
| 1522 | J14 |
| 2501 | B 8 |
| 2502 | G 8 |
| 2503 | B 8 |
| 2504 | F 8 |
| 2505 | B 8 |
| 2506 | F 8 |
| 2507 | B 9 |
| 2508 | G 9 |
| 2511 | B 9 |
| 2512 | G 9 |
| 2513 | B10 |
| 2514 | G 9 |
| 2515 | E16 |
| 2516 | E14 |
| 2517 | B 9 |
| 2518 | H 9 |
| 2519 | D16 |
| 2520 | G16 |
| 2521 | I 4 |
| 2522 | I 5 |
| 2523 | F13 |
| 2524 | E12 |
| 2525 | A 5 |
| 2526 | G 7 |
| 2527 | D17 |
| 2528 | E17 |
| 2529 | E18 |
| 2531 | C17 |
| 2532 | F17 |
| 2533 | D13 |
| 2534 | H13 |
| 2535 | D14 |
| 2536 | H14 |
| 2537 | C 5 |
| 2538 | G 5 |
| 2539 | C14 |
| 2540 | F14 |
| 2541 | C16 |
| 2542 | E16 |
| 2543 | C19 |
| 2544 | F19 |
| 2545 | J 7 |
| 2546 | K 7 |
| 2547 | D21 |
| 2548 | E21 |
| 2549 | C 3 |
| 2550 | C 3 |
| 2551 | C14 |
| 2552 | G14 |
| 2553 | H19 |
| 2554 | H19 |
| 2557 | E20 |
| 2558 | D20 |
| 2559 | B 6 |
| 2560 | G 6 |
| 2561 | B10 |
| 2562 | G10 |
| 2573 | J 7 |
| 2574 | K 7 |
| 2575 | D20 |
| 2580 | F 6 |
| 2581 | C 7 |
| 2582 | F 7 |
| 2583 | H10 |
| 2584 | H11 |
| 2585 | I 4 |
| 2587 | C 4 |
| 2588 | F 4 |
| 2589 | K 6 |
| 2590 | F 7 |
| 2591 | B14 |
| 2592 | F14 |
| 2593 | C15 |
| 2594 | G15 |
| 2595 | B 6 |
| 2596 | H 7 |
| 2597 | C 6 |
| 2601 | C 6 |
| 2602 | F 5 |
| 2603 | G18 |
| 2604 | K15 |
| 2605 | K 4 |
| 2606 | L 4 |
| 2609 | D19 |
| 2610 | E19 |
| 2611 | C18 |
| 2612 | F18 |
| 2613 | M 4 |
| 2614 | N 4 |
| 2615 | C16 |
| 2616 | H16 |
| 2617 | E15 |
| 2618 | H15 |
| 2619 | H11 |
| 2620 | E18 |
| 2621 | B 4 |
| 2622 | F 7 |
| 2630 | K18 |
| 2632 | K16 |
| 2634 | K19 |
| 2635 | J18 |
| 2636 | K18 |
| 2637 | J18 |
| 2641 | H10 |
| 2642 | J16 |
| 3501 | C 3 |
| 3502 | F 3 |
| 3503 | C 3 |
| 3504 | F 4 |
| 3505 | C 4 |
| 3506 | F 4 |
| 3507 | B 7 |
| 3508 | H 7 |
| 3509 | A 5 |
| 3510 | H 7 |
| 3511 | B 8 |
| 3512 | G 8 |
| 3513 | B 9 |
| 3514 | G 9 |
| 3515 | B 9 |
| 3516 | H 9 |
| 3517 | B 9 |
| 3518 | H 9 |
| 3519 | B 5 |
| 3520 | G 5 |
| 3521 | A 7 |
| 3522 | H 8 |
| 3523 | J 4 |
| 3524 | J 5 |
| 3525 | K 4 |
| 3526 | K 5 |
| 3527 | A 7 |
| 3528 | G 8 |
| 3529 | G18 |
| 3530 | G18 |
| 3531 | F12 |
| 3532 | E13 |
| 3533 | C13 |
| 3534 | F13 |
| 3535 | C13 |
| 3536 | G13 |
| 3537 | B14 |
| 3538 | F14 |
| 3539 | C14 |
| 3540 | G14 |
| 3541 | C15 |
| 3542 | F15 |
| 3543 | C15 |
| 3544 | F15 |
| 3545 | A20 |
| 3546 | B20 |
| 3547 | B20 |
| 3548 | B21 |
| 3549 | D14 |
| 3550 | H14 |
| 3551 | E15 |
| 3552 | H15 |
| 3553 | B15 |
| 3554 | F15 |
| 3555 | B16 |
| 3556 | H16 |
| 3557 | C17 |
| 3558 | F17 |
| 3559 | C 4 |
| 3560 | G 5 |
| 3561 | D17 |
| 3562 | E17 |
| 3563 | B18 |
| 3564 | F18 |
| 3565 | C18 |
| 3566 | F18 |
| 3567 | C19 |
| 3568 | F19 |
| 3569 | D19 |
| 3570 | E19 |
| 3571 | J 7 |
| 3572 | K 7 |
| 3573 | A11 |
| 3574 | G10 |
| 3575 | A19 |
| 3576 | J13 |
| 3577 | B12 |
| 3578 | F12 |
| 3579 | D22 |
| 3580 | G10 |
| 3581 | D21 |
| 3582 | H11 |
| 3583 | H12 |
| 3584 | C18 |
| 3585 | D20 |
| 3586 | C21 |
| 3587 | K 3 |
| 3588 | K 3 |
| 3589 | I 4 |
| 3591 | M 4 |
| 3592 | N 4 |
| 3593 | J 6 |
| 3594 | K 6 |
| 3595 | C21 |
| 3596 | C20 |
| 3597 | M 4 |
| 3598 | N 4 |
| 3599 | M 4 |
| 3600 | N 4 |
| 3601 | B 4 |
| 3602 | C 3 |
| 3603 | D16 |
| 3604 | G16 |
| 3605 | A 9 |
| 3606 | I 9 |
| 3611 | D16 |
| 3612 | E16 |
| 3613 | E13 |
| 3614 | L 4 |
| 3615 | K 4 |
| 3616 | L 5 |
| 3617 | K 5 |
| 3631 | H20 |
| 3632 | G20 |
| 3633 | H20 |
| 3634 | H20 |
| 3635 | E18 |
| 3636 | K16 |
| 3637 | I19 |
| 3641 | D14 |
| 3642 | H14 |
| 3643 | D14 |
| 3644 | H14 |
| 3645 | A 8 |
| 3646 | I 8 |
| 3647 | C17 |
| 3648 | E17 |
| 3652 | K15 |
| 3654 | K15 |
| 3655 | K19 |
| 3656 | K17 |
| 3657 | J18 |
| 3658 | K18 |
| 3661 | A 8 |
| 3662 | I 7 |
| 3663 | G 4 |
| 3664 | H 5 |
| 3666 | J17 |
| 3667 | J16 |
| 3668 | K17 |
| 3907 | K18 |
| 4501 | A 8 |
| 4502 | H 8 |
| 4505 | J18 |
| 4506 | J11 |
| 4507 | K19 |
| 4527 | K11 |
| 4529 | A19 |
| 4543 | B 6 |
| 4544 | G 6 |
| 4545 | A 7 |
| 4546 | I 8 |
| 4574 | J11 |
| 4576 | M 4 |
| 4577 | N 4 |
| 4581 | L16 |
| 4582 | L16 |
| 4583 | L16 |
| 4584 | M16 |
| 4585 | M16 |
| 4586 | M16 |
| 4587 | M16 |
| 4588 | M16 |
| 4589 | N16 |
| 4590 | N16 |
| 4591 | N16 |
| 4592 | N16 |
| 4593 | J16 |
| 4594 | J17 |
| 51 | A 3 |
| 52 | C 2 |
| 53 | D 2 |
| 54 | F 2 |
| 55 | H 2 |
| 5501 | E18 |
| 5502 | D21 |
| 5503 | F20 |
| 5504 | F20 |
| 56 | I 2 |
| 57 | J22 |
| 58 | L21 |
| 59 | M21 |
| 60 | A 2 |
| 61 | F 1 |
| 62 | E 1 |
| 65 | H 3 |
| 6501 | I 3 |
| 6502 | D18 |
| 6503 | H10 |
| 6504 | I20 |
| 6510 | I11 |
| 6511 | I12 |
| 70 | H 2 |
| 71 | J20 |
| 7501 | C18 |
| 7501 | F18 |
| 7502 | K16 |
| 7503 | D19 |
| 7504 | E19 |
| 7505 | G10 |
| 7507 | B 5 |
| 7507 | H 7 |
| 7508 | J14 |
| 7510 | K17 |
| 7511 | K18 |
| 7512 | C20 |
| 7513 | D21 |
| 7514 | C20 |
| 7515 | A20 |
| 7516 | B20 |
| 7517 | C14 |
| 7518 | F14 |
| 7519 | D15 |
| 7520 | G15 |
| 7553 | C12 |
| 9513 | J11 |
| 9514 | J11 |
| 9578 | K 3 |
| 9590 | D18 |
| 9591 | D21 |


AF3 Board
TO PHONO
TO AUX
PHONO/AUX_L
GND_A
PHONO/AUX_R
TO TUNER
TUNER_L
TUNER_R
TO CD/3-CDC
TO VCD
TO DPL/FK
TO SK
TO TAPE MOTOR
TO MTF
TO ETF2
TO FRONT
NTC
HP_SENSE
VOCAL_FADER
STANDBY
AMP_ON
PWR_DWN
CD_STBY
MUTE
I2C_DATA
I2C_CLK
7553
TEA6321
SOURCE-SELECTOR
LOGIC-CONTROL
I2C
VOLUME1 LOUDN. LEFT
BASS LEFT
TREBLE LEFT
VOLUME2 LEFT
VOLUME1 LOUDN. RIGHT
BASS RIGHT
TREBLE RIGHT
VOLUME2 RIGHT
INPUTA LEFT
INPUTB LEFT
INPUT MONO
INPUTC LEFT
INPUTD LEFT
LINEAR OUT L
INPUTA RIGHT
INPUTB RIGHT
RIPPLE IN
INPUTC RIGHT
Vref
INPUTD RIGHT
LINEAR OUT R
7507
NJM4560M
INCREDIBLE SURROUND
HEADPHONE AMP.
7501
NJM4556AM
CD STANDBY SWITCH
7515
BC327-40
MUTE
HP SOCKET
(Dia. 3.5mm)
AUX
AUX SOCKET
TO AF2
SUB-WOOFER OUT
YKC21-3415
TO POWER
STBY "ON" "PLOP KILLER" FOR HEADPHONE
LEGEND :
DP : DOLBY PROLOGIC
SA : SPECTRUM ANALYSER
NK : NON KARAOKE
SK : SIMPLE KARAOKE
FK : FULL FEATURE KARAOKE
HP : HEADPHONE
# : PROVISION ON LAYOUT
* : INCREDIBLE SOUND
LO : LINE OUT
⊠ : SK/(FK+LO)/DP/(NK+LO)
SW : SUB-WOOFER OUT
#PROVISION
70W/100W
12W/18W
3139 118 89540 29.1.97

| MODEL/VERSION | 12NC (3139 118 XXXXX) | 3674 | 3675 | BASS BOOST 2507 2508 | HDPHONE AMP 3563 2611 3564 2612 | INCREDIBLE SURROUND 3533 3535 3534 3536 | 3553 3543 3554 3544 | BUFFER AMP 3509 3510 |
|---|---|---|---|---|---|---|---|---|
| FW315C/37 | 8954 | 6k8 | 1k | 68N | 100k 47P | - - | - - | - |
| FW340C/37 | 8955 | 6k8 | 2k2 | 100N | 100k 47P | - - | - - | - |
| FW375P/37 | 8957 | 6k8 | 3k3 | 220N | 150k 22P | - - | - - | - |
| FW375P/21 | 8958 | 6k8 | 4k7 | 220N | 150k 22P | 330k 180k | 1k5 27k | 68k |
| FW355C/37 | 8986 | 6k8 | 6k8 | 220N | 150k 22P | 330k 180k | 1k5 27k | 68k |
| FW355C/21 | 8985 | 6k8 | 8k2 | 220N | 150k 22P | 330k 180k | 1k5 27k | 68k |

**This schematic drawing shows a summary of all possible versions.**
**For components used in a specific version see respective partslist.**

## COMPONENT LAYOUT

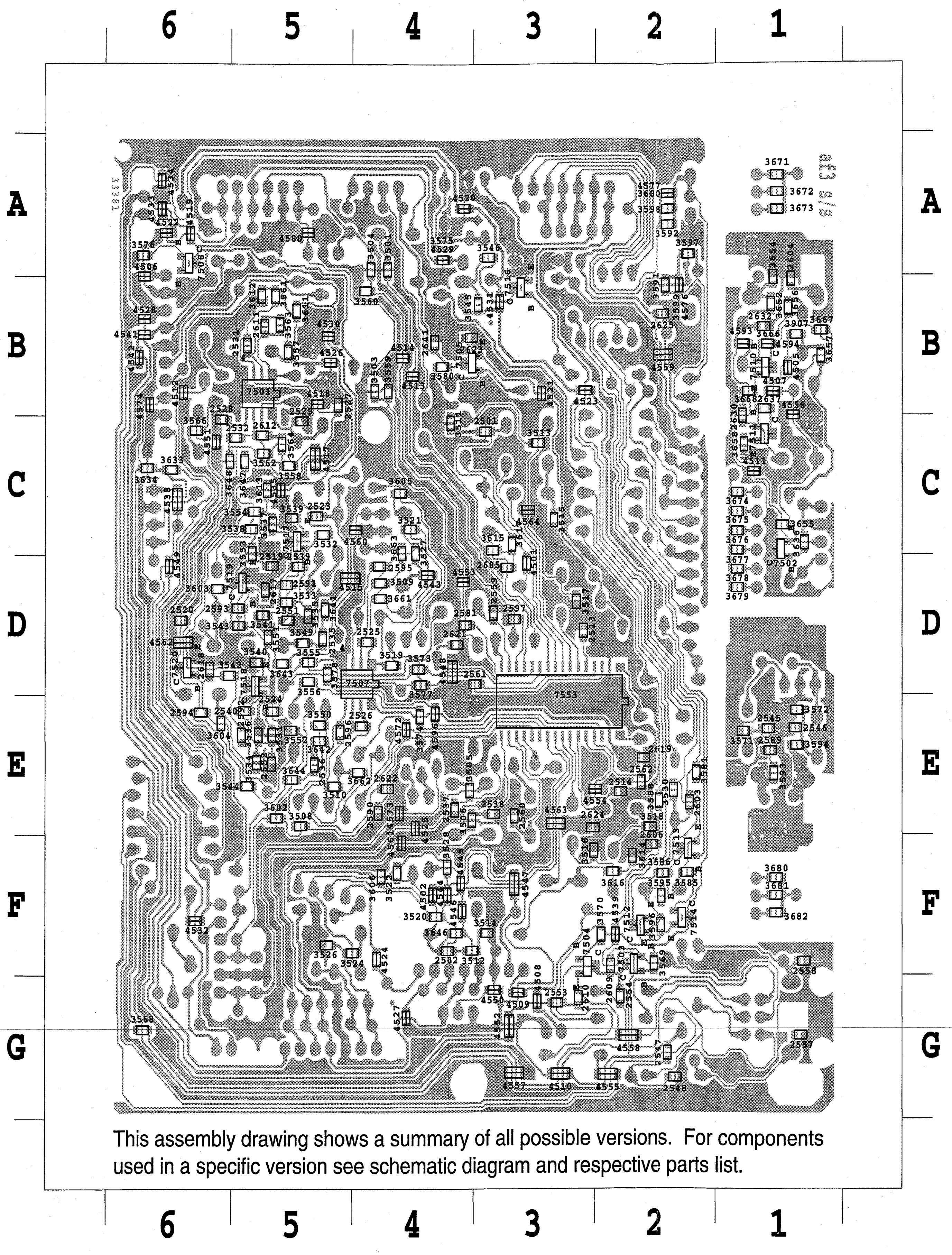

1
2
3
4
5
6
A
B
C
D
E
F
G
POWER
TUNER
CD/3-CDC
TAPE MOTOR
VCD
FRONT
fw770/af3-p2-961213-1
3139 113 33382
SUBWOOFER OUT
LINE OUT
af3-p2-961213-1
3139 113 33382
AUX
POWER
SUBWOOFER OUT
3139 113 33382
FW770/af3-p2-961213-1
AUX
PHONO
PHILIPS
HEADPHONE
VF
FK/DPL
SK
MTR
ETF2
TAPE MOTOR
FLOW DIRECTION

This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram and respective parts list.

| | | |
|---|---|---|
| 51 | F | 5 |
| 52 | A | 4 |
| 53 | A | 5 |
| 54 | F | 4 |
| 55 | G | 6 |
| 56 | G | 5 |
| 57 | B | 6 |
| 58 | A | 3 |
| 59 | A | 3 |
| 60 | F | 6 |
| 61 | G | 4 |
| 62 | A | 5 |
| 65 | A | 6 |
| 70 | G | 3 |
| 71 | C | 1 |
| 1501 | A | 5 |
| 1502 | G | 5 |
| 1505 | D | 1 |
| 1507 | E | 1 |
| 1508 | G | 1 |
| 1510 | C | 2 |
| 1512 | F | 5 |
| 1513 | C | 2 |
| 1516 | G | 2 |
| 1520 | C | 4 |
| 1521 | C | 6 |
| 1522 | A | 1 |
| 2503 | C | 4 |
| 2504 | F | 3 |
| 2505 | C | 3 |
| 2506 | F | 3 |
| 2507 | C | 3 |
| 2508 | E | 3 |
| 2511 | D | 3 |
| 2512 | E | 2 |
| 2515 | B | 5 |
| 2516 | C | 5 |
| 2517 | C | 3 |
| 2518 | F | 2 |
| 2521 | D | 4 |
| 2522 | F | 4 |
| 2533 | D | 5 |
| 2534 | C | 5 |
| 2541 | D | 6 |
| 2542 | D | 6 |
| 2543 | B | 6 |
| 2544 | C | 6 |
| 2549 | A | 4 |
| 2550 | C | 4 |
| 2573 | E | 1 |
| 2574 | E | 1 |
| 2575 | F | 2 |
| 2580 | E | 3 |
| 2582 | E | 3 |
| 2583 | B | 4 |
| 2584 | D | 2 |
| 2585 | A | 4 |
| 2587 | E | 4 |
| 2588 | F | 4 |
| 2601 | D | 3 |
| 2602 | E | 3 |
| 2613 | B | 2 |
| 2614 | A | 2 |
| 2615 | D | 6 |
| 2616 | E | 5 |
| 2620 | B | 5 |
| 2634 | C | 1 |
| 2635 | B | 1 |
| 2636 | B | 1 |
| 2642 | B | 1 |
| 3502 | E | 3 |
| 3507 | D | 4 |
| 3523 | F | 5 |
| 3525 | F | 5 |
| 3529 | E | 2 |
| 3547 | B | 2 |
| 3548 | B | 2 |
| 3565 | B | 5 |
| 3567 | G | 2 |
| 3579 | D | 2 |
| 3582 | C | 2 |
| 3583 | C | 2 |
| 3584 | B | 3 |
| 3587 | C | 3 |
| 3589 | A | 3 |
| 3601 | E | 4 |
| 3631 | G | 2 |
| 3632 | G | 2 |
| 3635 | C | 4 |
| 3637 | C | 1 |
| 3645 | C | 4 |
| 3664 | E | 5 |
| 5501 | C | 5 |
| 5502 | G | 2 |
| 5503 | G | 2 |
| 5504 | G | 2 |
| 6501 | A | 4 |
| 6502 | A | 5 |
| 6503 | B | 3 |
| 6504 | G | 3 |
| 6510 | F | 6 |
| 6511 | F | 6 |
| 7515 | B | 4 |
| 9503 | E | 2 |
| 9505 | C | 5 |
| 9506 | E | 3 |
| 9507 | E | 2 |
| 9508 | E | 4 |
| 9509 | E | 3 |
| 9511 | E | 4 |
| 9513 | F | 6 |
| 9514 | F | 6 |
| 9515 | B | 4 |
| 9517 | F | 4 |
| 9518 | F | 5 |
| 9519 | C | 2 |
| 9520 | C | 2 |
| 9521 | B | 2 |
| 9522 | B | 2 |
| 9523 | B | 2 |
| 9524 | C | 2 |
| 9525 | D | 5 |
| 9531 | B | 5 |
| 9534 | D | 4 |
| 9536 | F | 5 |
| 9537 | F | 3 |
| 9544 | F | 6 |
| 9545 | E | 6 |
| 9546 | F | 6 |
| 9547 | E | 6 |
| 9548 | E | 6 |
| 9549 | E | 6 |
| 9551 | G | 1 |
| 9552 | D | 4 |
| 9553 | E | 4 |
| 9554 | F | 5 |
| 9560 | A | 6 |
| 9561 | B | 3 |
| 9562 | A | 3 |
| 9563 | E | 4 |
| 9566 | B | 4 |
| 9569 | A | 5 |
| 9571 | D | 2 |
| 9572 | F | 4 |
| 9573 | F | 5 |
| 9578 | C | 2 |
| 9579 | C | 6 |
| 9580 | F | 5 |
| 9581 | C | 4 |
| 9582 | D | 4 |
| 9584 | E | 2 |
| 9589 | F | 3 |
| 9590 | A | 5 |
| 9591 | G | 2 |
| 9600 | E | 6 |
| 9601 | D | 5 |

1 2 3 4 5 6

# CHIP LAYOUT



This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram and respective parts list.

| | | |
|---|---|---|
| 2501 | C | 3 |
| 2502 | F | 4 |
| 2513 | D | 3 |
| 2514 | E | 2 |
| 2519 | D | 5 |
| 2520 | D | 6 |
| 2523 | C | 5 |
| 2524 | E | 5 |
| 2525 | D | 4 |
| 2526 | E | 4 |
| 2527 | B | 5 |
| 2528 | C | 6 |
| 2529 | C | 5 |
| 2531 | B | 5 |
| 2532 | C | 5 |
| 2535 | D | 5 |
| 2536 | E | 5 |
| 2537 | E | 4 |
| 2538 | E | 3 |
| 2539 | D | 5 |
| 2540 | E | 5 |
| 2545 | E | 1 |
| 2546 | E | 1 |
| 2547 | G | 2 |
| 2548 | G | 2 |
| 2551 | D | 5 |
| 2552 | E | 5 |
| 2553 | G | 3 |
| 2554 | G | 2 |
| 2557 | G | 1 |
| 2558 | F | 1 |
| 2559 | D | 3 |
| 2560 | E | 3 |
| 2561 | D | 3 |
| 2562 | E | 2 |
| 2581 | D | 4 |
| 2589 | E | 1 |
| 2590 | E | 4 |
| 2591 | D | 5 |
| 2592 | E | 5 |
| 2593 | D | 5 |
| 2594 | E | 6 |
| 2595 | D | 4 |
| 2596 | E | 5 |
| 2597 | D | 3 |
| 2603 | E | 2 |
| 2604 | B | 1 |
| 2605 | D | 3 |
| 2606 | F | 2 |
| 2609 | F | 2 |
| 2610 | G | 3 |
| 2611 | B | 5 |
| 2612 | C | 5 |
| 2617 | D | 5 |
| 2618 | D | 6 |
| 2619 | E | 2 |
| 2621 | D | 4 |
| 2622 | E | 4 |
| 2623 | B | 4 |
| 2624 | E | 3 |
| 2625 | B | 2 |
| 2630 | C | 1 |
| 2632 | B | 1 |
| 2637 | B | 1 |
| 2641 | B | 4 |
| 3501 | A | 4 |
| 3503 | B | 4 |
| 3504 | A | 4 |
| 3505 | E | 4 |
| 3506 | E | 4 |
| 3508 | E | 5 |
| 3509 | D | 4 |
| 3510 | E | 5 |
| 3511 | C | 4 |
| 3512 | F | 4 |
| 3513 | C | 3 |
| 3514 | F | 3 |
| 3515 | C | 3 |
| 3516 | F | 3 |
| 3517 | D | 3 |
| 3518 | E | 2 |
| 3519 | D | 4 |
| 3520 | F | 4 |
| 3521 | C | 4 |
| 3522 | F | 4 |
| 3524 | F | 4 |
| 3526 | F | 5 |
| 3527 | C | 4 |
| 3528 | F | 4 |
| 3530 | E | 2 |
| 3531 | E | 5 |
| 3532 | C | 5 |
| 3533 | D | 5 |
| 3534 | E | 5 |
| 3535 | D | 5 |
| 3536 | E | 5 |
| 3537 | C | 5 |
| 3538 | C | 5 |
| 3539 | C | 5 |
| 3540 | D | 5 |
| 3541 | D | 5 |
| 3542 | D | 6 |
| 3543 | D | 5 |
| 3544 | E | 5 |
| 3545 | B | 3 |
| 3546 | A | 3 |
| 3549 | D | 5 |
| 3550 | E | 5 |
| 3551 | D | 5 |
| 3552 | E | 5 |
| 3553 | C | 5 |
| 3554 | C | 5 |
| 3555 | D | 5 |
| 3556 | D | 5 |
| 3557 | B | 5 |
| 3558 | C | 5 |
| 3559 | B | 4 |
| 3560 | B | 4 |
| 3561 | B | 5 |
| 3562 | C | 5 |
| 3563 | B | 5 |
| 3564 | C | 5 |
| 3566 | C | 6 |
| 3568 | G | 6 |
| 3569 | F | 2 |
| 3570 | F | 2 |
| 3571 | E | 1 |
| 3572 | E | 1 |
| 3573 | D | 4 |
| 3574 | E | 4 |
| 3575 | A | 4 |
| 3576 | A | 6 |
| 3577 | D | 4 |
| 3578 | D | 5 |
| 3580 | B | 4 |
| 3581 | E | 2 |
| 3585 | F | 2 |
| 3586 | F | 2 |
| 3588 | E | 2 |
| 3591 | B | 2 |
| 3592 | A | 2 |
| 3593 | E | 1 |
| 3594 | E | 1 |
| 3595 | F | 2 |
| 3596 | F | 2 |
| 3597 | A | 2 |
| 3598 | A | 2 |
| 3599 | B | 2 |
| 3600 | A | 2 |
| 3602 | E | 5 |
| 3603 | D | 6 |
| 3604 | E | 6 |
| 3605 | C | 4 |
| 3606 | F | 4 |
| 3611 | B | 5 |
| 3612 | B | 5 |
| 3613 | C | 5 |
| 3614 | F | 2 |
| 3615 | C | 3 |
| 3616 | F | 2 |
| 3617 | C | 3 |
| 3633 | C | 6 |
| 3634 | C | 6 |
| 3636 | C | 1 |
| 3641 | D | 5 |
| 3642 | E | 5 |
| 3643 | D | 5 |
| 3644 | E | 5 |
| 3646 | F | 4 |
| 3647 | C | 5 |
| 3648 | C | 6 |
| 3652 | B | 1 |
| 3654 | B | 1 |
| 3655 | C | 1 |
| 3656 | B | 1 |
| 3657 | B | 1 |
| 3658 | C | 1 |
| 3661 | D | 4 |
| 3662 | E | 4 |
| 3663 | C | 4 |
| 3666 | B | 1 |
| 3667 | B | 1 |
| 3668 | B | 1 |
| 3671 | A | 1 |
| 3672 | A | 1 |
| 3673 | A | 1 |
| 3674 | C | 1 |
| 3675 | C | 1 |
| 3676 | C | 1 |
| 3677 | C | 1 |
| 3678 | D | 1 |
| 3679 | D | 1 |
| 3680 | F | 1 |
| 3681 | F | 1 |
| 3682 | F | 1 |
| 3907 | B | 1 |
| 4501 | D | 3 |
| 4502 | F | 4 |
| 4505 | B | 1 |
| 4506 | B | 6 |
| 4507 | B | 1 |
| 4508 | G | 3 |
| 4509 | G | 3 |
| 4510 | G | 3 |
| 4511 | C | 1 |
| 4512 | B | 6 |
| 4513 | B | 4 |
| 4514 | B | 4 |
| 4515 | D | 5 |
| 4517 | C | 5 |
| 4518 | B | 5 |
| 4519 | A | 6 |
| 4520 | A | 4 |
| 4521 | B | 3 |
| 4522 | A | 6 |
| 4523 | B | 3 |
| 4524 | F | 4 |
| 4525 | E | 4 |
| 4526 | B | 5 |
| 4527 | G | 4 |
| 4528 | B | 6 |
| 4529 | A | 4 |
| 4530 | B | 5 |
| 4531 | B | 3 |
| 4532 | F | 6 |
| 4533 | A | 6 |
| 4534 | A | 6 |
| 4535 | C | 5 |
| 4538 | C | 6 |
| 4539 | F | 2 |
| 4541 | B | 6 |
| 4542 | B | 6 |

## *ELECTRICAL PARTS LIST - AF3 BOARD*

### MISCELLANEOUS

| | | |
|---|---|---|
| 1507 | 4822 265 20553 | AUX socket |
| 1508 | 4822 267 40898 | Headphone |
| 1522 | 4822 267 31729 | Subwoofer socket |

### CAPACITORS

| | | |
|---|---|---|
| 2501 | 4822 122 33336 | 8,2nF 10% 50V |
| 2502 | 4822 122 33336 | 8,2nF 10% 50V |
| 2503 | 4822 124 41407 | 0.47µF 50V |
| 2504 | 4822 124 41407 | 0.47µF 50V |
| 2505 | 4822 124 40746 | 0.22µF 50V |
| 2506 | 4822 124 40746 | 0.22µF 50V |
| 2507 | 5322 121 42408 | 220NF 5% 63V |
| 2508 | 5322 121 42408 | 220NF 5% 63V |
| 2511 | 4822 121 51252 | 470nF 50V |
| 2512 | 4822 121 51252 | 470nF 50V |
| 2513 | 4822 122 32646 | 5,6nF 10% 50V |
| 2514 | 4822 122 32646 | 5,6nF 10% 50V |
| 2515 | 4822 124 40433 | 47µF 25V |
| 2516 | 4822 124 81029 | 100µF 25V |
| 2517 | 4822 121 51252 | 470nF 50V |
| 2518 | 4822 121 51252 | 470nF 50V |
| 2519 | 5322 122 32268 | 470pF 10% 50V |
| 2520 | 5322 122 32268 | 470pF 10% 50V |
| 2521 | 4822 124 41407 | 0.47µF 50V |
| 2522 | 4822 124 41407 | 0.47µF 50V |
| 2527 | 5322 122 32531 | 100pF 5% 50V |
| 2528 | 5322 122 32531 | 100pF 5% 50V |
| 2529 | 5322 122 32654 | 22nF 10% 63V |
| 2531 | 5322 122 32268 | 470pF 10% 50V |
| 2532 | 5322 122 32268 | 470pF 10% 50V |
| 2537 | 5322 122 32531 | 100pF 5% 50V |
| 2538 | 5322 122 32531 | 100pF 5% 50V |
| 2541 | 4822 124 40246 | 4.7µF 50V |
| 2542 | 4822 124 40246 | 4.7µF 50V |
| 2543 | 4822 124 41751 | 47µF 50V |
| 2544 | 4822 124 41751 | 47µF 50V |
| 2545 | 5322 122 32268 | 470pF 10% 50V |
| 2546 | 5322 122 32268 | 470pF 10% 50V |
| 2547 | 4822 122 32654 | 22nF Y5V 50V |
| 2548 | 4822 122 32654 | 22nF Y5V 50V |
| 2549 | 4822 124 40246 | 4.7µF 50V |
| 2550 | 4822 124 40246 | 4.7µF 50V |
| 2557 | 5322 122 32654 | 22nF 10% 63V |
| 2558 | 5322 122 32654 | 22nF 10% 63V |
| 2559 | 5322 122 32531 | 100pF NP0 50V |
| 2560 | 5322 122 32531 | 100pF NP0 50V |
| 2561 | 5322 122 34123 | 1nF 10% 50V |
| 2562 | 5322 122 34123 | 1nF 10% 50V |
| 2573 | 4822 124 40246 | 4.7µF 50V |
| 2574 | 4822 124 40246 | 4.7µF 50V |
| 2575 | 4822 124 40246 | 4.7µF 50V |
| 2580 | 4822 124 41751 | 4.7µF 50V |
| 2581 | 4822 122 33177 | 10nF 10% 50V |
| 2582 | 4822 124 41751 | 4.7µF 50V |
| 2583 | 4822 124 81029 | 100µF 25V |
| 2584 | 4822 124 81029 | 100µF 25V |
| 2587 | 4822 124 40246 | 4.7µF 50V |
| 2588 | 4822 124 40246 | 4.7µF 50V |
| 2589 | 4822 126 13838 | 100nF +80/-20% 50V |
| 2590 | 5322 122 32658 | 22pF 5% 50V |
| 2597 | 4822 126 13838 | 100nF +80/-20% 50V |
| 2601 | 4822 124 40246 | 4.7µF 50V |
| 2602 | 4822 124 40246 | 4.7µF 50V |
| 2604 | 4822 126 13838 | 100nF +80/-20% 50V |
| 2609 | 5322 122 32531 | 100pF 5% 50V |
| 2610 | 5322 122 32531 | 100pF 5% 50V |
| 2611 | 5322 122 32452 | 47pF 5% NP0 63V |
| 2612 | 5322 122 32452 | 47pF 5% NP0 63V |
| 2615 | 4822 124 40246 | 4.7µF 50V |
| 2616 | 4822 124 40246 | 4.7µF 50V |
| 2620 | 4822 124 40433 | 47µF 25V |
| 2621 | 5322 122 32658 | 22pF 5% 50V |
| 2622 | 5322 122 32658 | 22pF 5% 50V |
| 2623 | 5322 126 10223 | 4.7nF 10% 63V |
| 2624 | 5322 126 10223 | 4.7nF 10% 63V |
| 2625 | 4822 126 13838 | 100nF 20% 50V |
| 2630 | 5322 122 34123 | 1nF 10% 50V |
| 2632 | 5322 122 32531 | 100pF 5% 50V |
| 2634 | 4822 124 40242 | 1µF 50V |
| 2636 | 4822 124 40242 | 1µF 50V |
| 2637 | 5322 122 32659 | 33pF NP0 50V |
| 2641 | 4822 122 33175 | 2,2nF 20% 50V |

For version -/21 only

| | | |
|---|---|---|
| 2523 | 4822 122 33342 | 33nF 10% 63V |
| 2524 | 4822 122 33342 | 33nF 10% 63V |
| 2424 | 4822 122 33342 | 33nF 10% 63V |
| 2526 | 4822 122 33342 | 33nF 10% 63V |
| 2533 | 4822 121 51252 | 470nF 50V |
| 2534 | 4822 121 51252 | 470nF 50V |
| 2535 | 4822 121 51252 | 470nF 50V |
| 2536 | 4822 121 51252 | 470nF 50V |
| 2539 | 4822 122 33891 | 3.3nF 10% 63V |
| 2540 | 4822 122 33891 | 3.3nF 10% 63V |
| 2551 | 5322 122 32268 | 470pF 10% 50V |
| 2552 | 5322 122 32268 | 470pF 10% 50V |
| 2591 | 4822 126 13838 | 100nF Y5V 50V |
| 2592 | 4822 126 13838 | 100nF Y5V 50V |
| 2593 | 4822 122 33575 | 220pF 10% 50V |
| 2594 | 4822 122 33575 | 220pF 10% 50V |
| 2595 | 4822 122 32535 | 680pF 10% 50V |
| 2596 | 4822 122 32535 | 680pF 10% 50V |
| 2617 | 5322 122 34123 | 1nF 10% 50V |
| 2618 | 5322 122 34123 | 1nF 10% 50V |

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## *ELECTRICAL PARTS LIST - AF3 BOARD*

### RESISTORS

| | | | |
|---|---|---|---|
| 3501 | 4822 051 20109 | 10R 5% 0,1W | |
| 3502 | 4822 116 52176 | 10R 5% 0,5W | |
| 3503 | 4822 051 20562 | 5K6 5% 0,1W | |
| 3504 | 4822 051 20562 | 5K6 5% 0,1W | |
| 3505 | 4822 051 20332 | 3K3 5% 0,1W | |
| 3506 | 4822 051 20332 | 3K3 5% 0,1W | |
| 3511 | 4822 051 20223 | 22K 5% 0,1W | |
| 3512 | 4822 051 20223 | 22K 5% 0,1W | |
| 3513 | 4822 117 11449 | 2K2 5% 0,1W | |
| 3514 | 4822 117 11449 | 2K2 5% 0,1W | |
| 3515 | 4822 051 20472 | 4K7 5% 0,1W | |
| 3516 | 4822 051 20472 | 4K7 5% 0,1W | |
| 3517 | 4822 051 20472 | 4K7 5% 0,1W | |
| 3518 | 4822 051 20472 | 4K7 5% 0,1W | |
| 3523 | 4822 116 83884 | 47K 5% 0,5W | |
| 3524 | 4822 051 20473 | 47K 5% 0,1W | |
| 3525 | 4822 116 83882 | 39K 5% 0,5W | |
| 3526 | 4822 051 20393 | 39K 5% 0,1W | |
| 3545 | 4822 051 20562 | 5K6 5% 0,1W | |
| 3546 | 4822 051 20562 | 5K6 5% 0,1W | |
| 3547 | 4822 116 83864 | 10K 5% 0,5W | |
| 3548 | 4822 116 52256 | 2K2 5% 0,5W | |
| 3549 | 4822 051 20562 | 5K6 5% 0,1W | |
| 3553 | 4822 051 20182 | 1K8 5% 0,1W | -/37 |
| 3554 | 4822 051 20182 | 1K8 5% 0,1W | -/37 |
| 3555 | 4822 051 20182 | 1K8 5% 0,1W | |
| 3556 | 4822 051 20182 | 1K8 5% 0,1W | |
| 3557 | 4822 051 20333 | 33K 5% 0,1W | -/37 |
| 3558 | 4822 051 20333 | 33K 5% 0,1W | -/37 |
| 3559 | 4822 051 20822 | 8K2 5% 0,1W | |
| 3560 | 4822 051 20822 | 8K2 5% 0,1W | |
| 3561 | 4822 051 20273 | 27K 5% 0,1W | |
| 3562 | 4822 051 20273 | 27K 5% 0,1W | |
| 3563 | 4822 051 20154 | 150K 5% 0,1W | |
| 3564 | 4822 051 20154 | 150K 5% 0,1W | |
| 3565 | 4822 116 52195 | 47R 5% 0,5W | |
| 3566 | 4822 051 20479 | 47R 5% 0,1W | |
| 3567 | 4822 116 52195 | 47R 5% 0,5W | |
| 3568 | 4822 051 20479 | 47R 5% 0,1W | |
| 3569 | 4822 051 10102 | 1K 5% 0,1W | |
| 3570 | 4822 051 10102 | 1K 5% 0,1W | |
| 3571 | 4822 117 11149 | 82K 5% 0,1W | |
| 3572 | 4822 117 11149 | 82K 5% 0,1W | |
| 3573 | 4822 051 20822 | 8K2 5% 0,1W | |
| 3574 | 4822 051 20822 | 8K2 5% 0,1W | |
| 3575 | 4822 051 20228 | 2R2 5% 0,1W | |
| 3579 | 4822 116 83864 | 10K 5% 0,5W | |
| 3580 | 4822 117 11139 | 1K5 5% 0,1W | |
| 3581 | 4822 117 10833 | 10K 5% 0,1W | |
| 3582 | 4822 050 11002 | 1K 5% 0,5W | |
| 3583 | 4822 050 11002 | 1K 5% 0,5W | |
| 3584 | 4822 050 24705 | 4M7 1% 0,6W | |
| 3585 | 4822 051 20472 | 4K7 5% 0,1W | |
| 3586 | 4822 051 10102 | 1K 5% 0,1W | |
| 3593 | 4822 051 10102 | 1K 5% 0,1W | |
| 3594 | 4822 051 10102 | 1K 5% 0,1W | |
| 3595 | 4822 051 20562 | 5K6 5% 0,1W | |
| 3601 | 4822 116 52304 | 82K 5% 0,5W | |
| 3602 | 4822 117 11149 | 82K 5% 0,1W | |
| 3605 | 4822 051 10102 | 1k 5% 0,1W | |
| 3606 | 4822 051 10102 | 1k 5% 0,1W | |
| 3611 | 4822 051 20682 | 6K8 5% 0,1W | |
| 3612 | 4822 051 20682 | 6K8 5% 0,1W | |
| 3631 | 4822 051 20101 | 100R 5% 0,5W | |
| 3632 | 4822 051 20101 | 100R 5% 0,5W | |
| 3633 | 4822 051 20224 | 220K 5% 0,1W | |
| 3634 | 4822 051 20224 | 220K 5% 0,1W | |
| 3635 | 4822 052 10109 | 25R 5% 0,33W | |
| 3636 | 4822 051 10102 | 1K 5% 0,1W | |
| 3637 | 4822 052 10229 | 25R 5% 0,33W | |
| 3643 | 4822 051 20562 | 5K6 5% 0,1W | |
| 3644 | 4822 051 20562 | 5K6 5% 0,1W | |
| 3647 | 4822 051 20101 | 100R 5% 0,1W | |
| 3648 | 4822 051 20101 | 100R 5% 0,1W | |
| 3652 | 4822 051 20471 | 470R 5% 0,1W | |
| 3654 | 4822 051 20122 | 1K2 5% 0,1W | |
| 3655 | 4822 051 20472 | 4K7 5% 0,1W | |
| 3656 | 4822 051 20681 | 680R 5% 0,1W | |
| 3657 | 4822 117 11449 | 2K2 5% 0,1W | |
| 3658 | 4822 051 20101 | 100R 5% 0,1W | |
| 3661 | 4822 051 20472 | 4K7 5% 0,1W | |
| 3662 | 4822 051 20472 | 4K7 5% 0,1W | |
| 3907 | 4822 051 20334 | 330K 5% 0,1W | |

## *ELECTRICAL PARTS LIST - AF3 BOARD*

RESISTORS (For version -/21 only)

| | | |
|---|---|---|
| 3507 | 4822 116 52244 | 15k 5% 0,5W |
| 3508 | 4822 116 52244 | 15k 5% 0,5W |
| 3509 | 4822 051 20683 | 68k 5% 0,1W |
| 3510 | 4822 051 20683 | 68k 5% 0,1W |
| 3521 | 4822 051 20223 | 22k 5% 0,1W |
| 3522 | 4822 051 20223 | 22k 5% 0,1W |
| 3527 | 4822 051 20223 | 22k 5% 0,1W |
| 3528 | 4822 051 20223 | 22k 5% 0,1W |
| 3531 | 4822 051 20562 | 5K6 5% 0,1W |
| 3532 | 4822 051 20562 | 5K6 5% 0,1W |
| 3533 | 4822 051 20225 | 2M2 5% 0,1W |
| 3534 | 4822 051 20225 | 2M2 5% 0,1W |
| 3537 | 4822 117 10833 | 10K 5% 0,1W |
| 3538 | 4822 117 10833 | 10K 5% 0,1W |
| 3539 | 4822 117 10833 | 10K 5% 0,1W |
| 3540 | 4822 117 10833 | 10K 5% 0,1W |
| 3541 | 4822 051 20562 | 5K6 5% 0,1W |
| 3542 | 4822 051 20562 | 5K6 5% 0,1W |
| 3543 | 4822 051 20273 | 27k 5% 0,1W |
| 3544 | 4822 051 20273 | 27k 5% 0,1W |
| 3550 | 4822 051 20562 | 5K6 5% 0,1W |
| 3551 | 4822 051 20472 | 4K7 5% 0,1W |
| 3522 | 4822 051 20472 | 4K7 5% 0,1W |
| 3553 | 4822 117 10833 | 10K 5% 0,1W |
| 3554 | 4822 117 10833 | 10K 5% 0,1W |
| 3557 | 4822 051 20223 | 22K 5% 0,1W |
| 3558 | 4822 051 20223 | 22K 5% 0,1W |
| 3577 | 4822 051 10102 | 1K 5% 0,1W |
| 3578 | 4822 051 10102 | 1K 5% 0,1W |
| 3603 | 4822 117 10833 | 10K 5% 0,1W |
| 3604 | 4822 117 10833 | 10K 5% 0,1W |
| 3605 | 4822 117 11139 | 1K5 5% 0,1W |
| 3606 | 4822 117 11139 | 1K5 5% 0,1W |
| 3613 | 4822 051 10102 | 1K 5% 0,1W |
| 3641 | 4822 051 20562 | 5K6 5% 0,1W |
| 3642 | 4822 051 20562 | 5K6 5% 0,1W |
| 3645 | 4822 116 52271 | 33k 5% 0,5W |
| 3646 | 4822 116 52271 | 33k 5% 0,5W |

JUMPER

| | | |
|---|---|---|
| 4501 | 4822 051 20008 | JUMPER -/37 |
| 4502 | 4822 051 20008 | JUMPER -/37 |
| 4506 | 4822 051 20008 | CHIP JUMPER |
| 4508 | 4822 051 20008 | CHIP JUMPER |
| 4509 | 4822 051 20008 | CHIP JUMPER |
| 4510 | 4822 051 10008 | CHIP JUMPER |
| 4511 | 4822 051 20008 | CHIP JUMPER |
| 4512 | 4822 051 20008 | CHIP JUMPER |
| 4513 | 4822 051 20008 | CHIP JUMPER |
| 4514 | 4822 051 20008 | CHIP JUMPER |
| 4515 | 4822 051 10008 | CHIP JUMPER |
| 4517 | 4822 051 10008 | CHIP JUMPER |
| 4518 | 4822 051 20008 | CHIP JUMPER |
| 4519 | 4822 051 20008 | CHIP JUMPER |
| 4520 | 4822 051 20008 | CHIP JUMPER |
| 4521 | 4822 051 20008 | CHIP JUMPER |
| 4522 | 4822 051 20008 | CHIP JUMPER |
| 4523 | 4822 051 20008 | CHIP JUMPER |
| 4524 | 4822 051 20008 | CHIP JUMPER |
| 4525 | 4822 051 20008 | CHIP JUMPER |
| 4526 | 4822 051 20008 | CHIP JUMPER |
| 4528 | 4822 051 20008 | CHIP JUMPER |
| 4530 | 4822 051 20008 | CHIP JUMPER |
| 4531 | 4822 051 20008 | CHIP JUMPER |
| 4532 | 4822 051 20008 | CHIP JUMPER |
| 4533 | 4822 051 20008 | CHIP JUMPER |
| 4534 | 4822 051 20008 | CHIP JUMPER |
| 4535 | 4822 051 20008 | CHIP JUMPER |
| 4538 | 4822 051 10008 | CHIP JUMPER |
| 4539 | 4822 051 20008 | CHIP JUMPER |
| 4541 | 4822 051 20008 | CHIP JUMPER |
| 4542 | 4822 051 20008 | CHIP JUMPER |
| 4547 | 4822 051 10008 | CHIP JUMPER |
| 4548 | 4822 051 10008 | CHIP JUMPER |
| 4549 | 4822 051 20008 | CHIP JUMPER |
| 4550 | 4822 051 20008 | CHIP JUMPER |
| 4552 | 4822 051 10008 | CHIP JUMPER |
| 4553 | 4822 051 20008 | CHIP JUMPER |
| 4554 | 4822 051 20008 | CHIP JUMPER |
| 4555 | 4822 051 10008 | CHIP JUMPER |
| 4556 | 4822 051 20008 | CHIP JUMPER |
| 4557 | 4822 051 10008 | CHIP JUMPER |
| 4558 | 4822 051 10008 | CHIP JUMPER |
| 4561 | 4822 051 20008 | JUMPER -/21 |
| 4562 | 4822 051 20008 | CHIP JUMPER |
| 4563 | 4822 051 10008 | CHIP JUMPER -/37 |
| 4572 | 4822 051 20008 | CHIP JUMPER |
| 4573 | 4822 051 20008 | CHIP JUMPER |
| 4574 | 4822 051 20008 | CHIP JUMPER |
| 4576 | 4822 051 20008 | CHIP JUMPER |
| 4577 | 4822 051 20008 | CHIP JUMPER |
| 4580 | 4822 051 20008 | CHIP JUMPER |
| 4585 | 4822 051 20008 | JUMPER |
| 4593 | 4822 051 20008 | CHIP JUMPER |
| 4594 | 4822 051 20008 | CHIP JUMPER |
| 4596 | 4822 051 20008 | CHIP JUMPER |

## *ELECTRICAL PARTS LIST - AF3 BOARD*

INDUCTORS

| | | |
|---|---|---|
| 5501 | 4822 156 21721 | INDUCTOR 2,2µH 10% |
| 5502 | 4822 156 21721 | INDUCTOR 2,2µH 10% |
| 5503 | 4822 156 21721 | INDUCTOR 2,2µH 10% |
| 5504 | 4822 156 21721 | INDUCTOR 2,2µH 10% |

DIODES

| | | |
|---|---|---|
| 6503 | 4822 130 30862 | BZX79-C9V1 |
| 6504 | 4822 130 30621 | 1N4148 |
| 6510 | 5322 130 30684 | Diode In4002 -/21 |
| 6511 | 5322 130 30684 | Diode 1N4003 |

TRANSISTORS

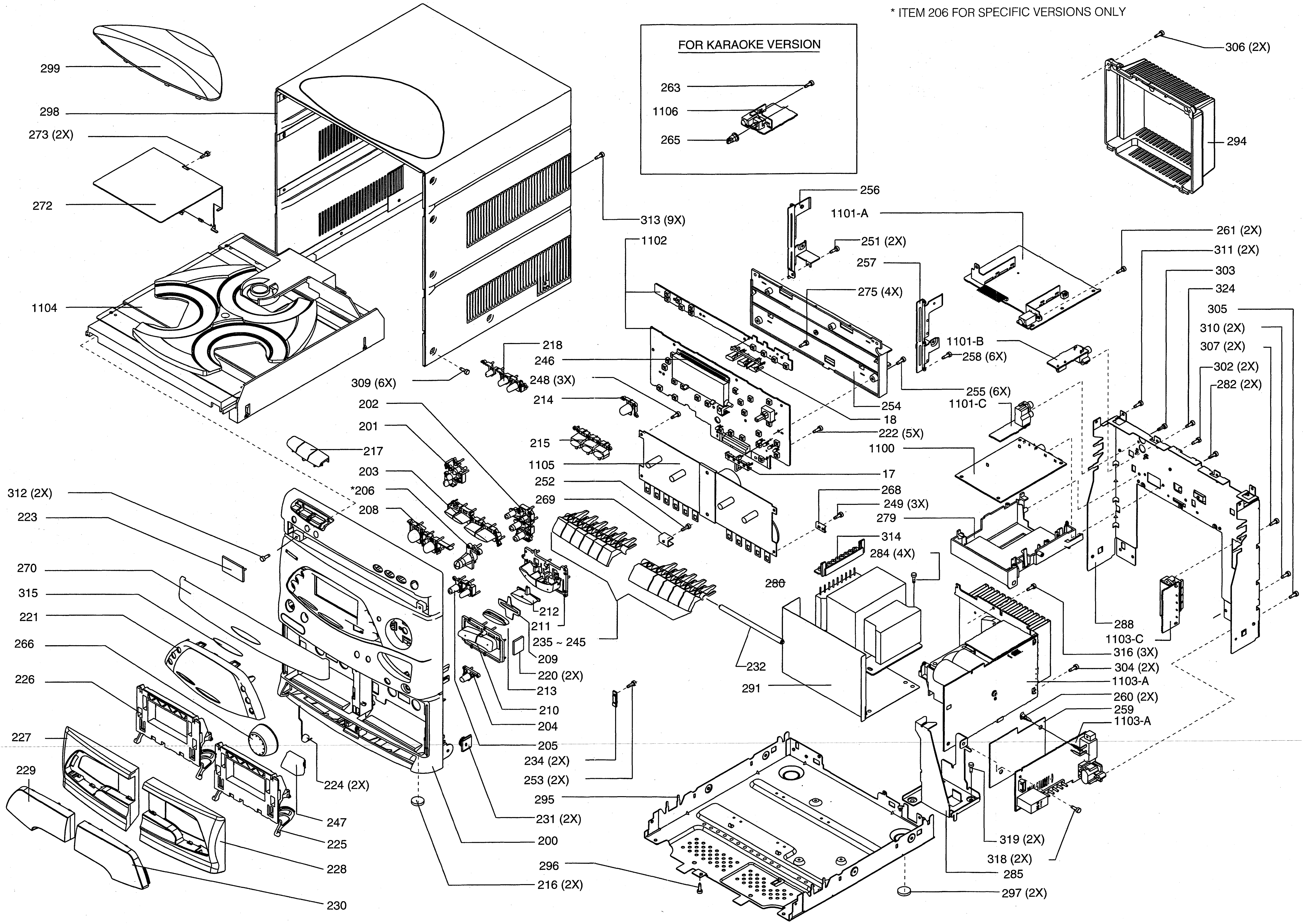
| | | |
|---|---|---|
| 7502 | 4822 130 42615 | BC817-40 |
| 7503 | 4822 130 42615 | BC817-40 |
| 7504 | 4822 130 42615 | BC817-40 |
| 7505 | 5322 130 42755 | BC847C |
| 7507 | 4822 209 83357 | NJM 4560M |
| 7511 | 5322 130 42755 | BC847C |
| 7512 | 5322 130 42755 | BC847C |
| 7513 | 5322 130 42755 | BC847C |
| 7514 | 5322 130 60508 | BC857B |
| 7515 | 4822 130 41327 | BC327-40 |
| 7516 | 5322 130 42755 | BC847C |
| 7517 | 5322 130 42755 | BC847C -/21 |
| 7518 | 5322 130 42755 | BC847C -/21 |
| 7519 | 5322 130 42755 | BC847C -/21 |
| 7520 | 5322 130 42755 | BC847C -/21 |

INTERGRATED CIRCUITS

| | | |
|---|---|---|
| 7501 | 4822 209 31378 | NJM4556AM |
| 7553 | 4822 209 33652 | TEA6321T |

Note : Only the parts mentioned in this lists are noraml service spare parts.

## SET EXPLODED VIEW


* ITEM 206 FOR SPECIFIC VERSIONS ONLY

FOR KARAOKE VERSION
263
1106
265
299
298
273 (2X)
272
1104
313 (9X)
1102
256
1101-A
251 (2X)
257
275 (4X)
306 (2X)
294
261 (2X)
311 (2X)
303
324
305
310 (2X)
307 (2X)
302 (2X)
282 (2X)
1101-B
258 (6X)
255 (6X)
1101-C
218
246
248 (3X)
214
309 (6X)
202
201
217
203
*206
208
215
1105
252
269
254
18
222 (5X)
1100
17
268
249 (3X)
279
314
284 (4X)
280
312 (2X)
223
270
315
221
266
226
227
229
212
211
235 ~ 245
209
220 (2X)
213
210
204
205
232
291
288
1103-C
316 (3X)
304 (2X)
1103-A
260 (2X)
259
1103-A
234 (2X)
253 (2X)
295
224 (2X)
247
225
228
230
231 (2X)
200
296
216 (2X)
319 (2X)
318 (2X)
285
297 (2X)

## *MECHANICAL & ACCESSORIES PARTSLIST - MAIN UNIT*

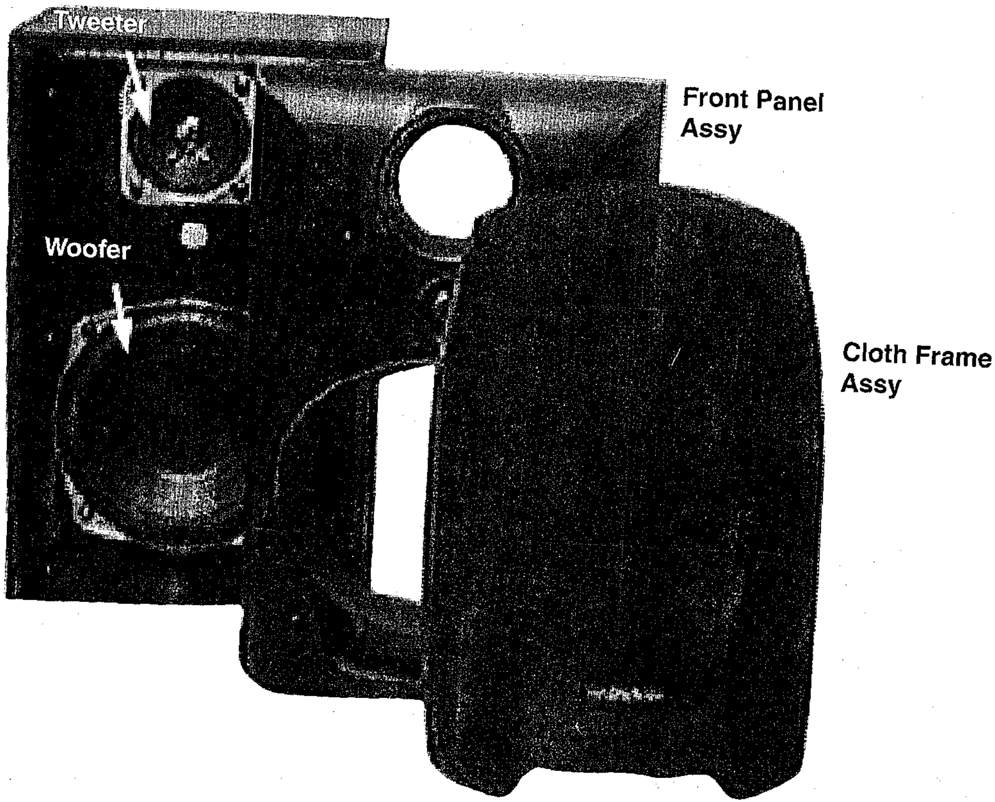
| | | |
|---|---|---|
| 200 | 4822 459 04476 | CABINET FRONT /37 |
| 200 | 4822 459 04514 | CABINET FRONT /21 |
| 201 | 4822 410 10195 | BUTTON LEFT (N/RDS) |
| 202 | 4822 410 10196 | BUTTON DISPLAY RIGHT |
| 203 | 4822 410 10918 | BUTTON SET TUNER |
| 204 | 4822 410 10198 | BUTTON HSD |
| 205 | 4822 410 10199 | BUTTON OPT/DBB |
| 206 | 4822 410 10418 | KNOB INCRED. SOUND /21 |
| 208 | 4822 410 10201 | BUTTON POWER/SOURCE |
| 210 | 4822 410 10919 | BUTTON DSC1 |
| 211 | 4822 410 10921 | BUTTON DSC2 |
| 214 | 4822 410 10204 | BUTTON OPEN/CLOSE |
| 215 | 4822 410 10205 | BUTTON CDC SELECT |
| 216 | 4822 462 40683 | PLATE (FOOT) |
| 217 | 4822 410 10922 | BUTTON CDC1 |
| 218 | 4822 410 10207 | BUTTON CDC2 |
| 221 | 4822 450 10245 | WINDOW DISPLAY (N/RDS) |
| 224 | 4822 492 11049 | SPRING |
| 225 | 4822 443 10173 | DOOR CASSETTE RIGHT |
| 226 | 4822 443 10173 | DOOR CASSETTE RIGHT |
| 227 | 4822 442 00711 | COVER DOOR CASS L /37 |
| 227 | 4822 442 00815 | COVER DOOR CASS L /21 |
| 228 | 4822 442 00784 | COVER DOOR CASS R |
| 229 | 4822 450 10246 | LENS CASSETTE LEFT |
| 230 | 4822 450 10247 | LENS CASSETTE RIGHT |
| 231 | 4822 529 10322 | DAMPER ASSY |
| 235 | 4822 410 10208 | BUTTON CASS 1 REC |
| 236 | 4822 410 10209 | BUTTON CASS 2 PLAY |
| 237 | 4822 410 10211 | BUTTON CASS 3 FRW |
| 238 | 4822 410 10212 | BUTTON CASS 4 FFW |
| 239 | 4822 410 10213 | BUTTON CASS 5 STOP |
| 240 | 4822 410 10214 | BUTTON CASS 6 PAUSE |
| 241 | 4822 410 10215 | BUTTON CASS 7 PLAY |
| 242 | 4822 410 10216 | BUTTON CASS 8 FRW |
| 243 | 4822 410 10217 | BUTTON CASS 9 FFW |
| 244 | 4822 410 10218 | BUTTON CASS 10 STOP |
| 245 | 4822 410 10219 | BUTTON CASS 11 PAUSE |
| 247 | 4822 410 10221 | BUTTON SPACER |
| 265 | 4822 410 10533 | KNOB KARAOKE /21 |
| 266 | 4822 410 10966 | KNOB VOLUME ROTARY |
| 270 | 4822 442 00081 | COVER TRAY 3-CDC |
| 297 | 4822 462 40683 | PLATE (FOOT) |
| 298 | 4822 426 10069 | CABINET REAR |
| 300 | 4822 402 10288 | BRACKET MAINS SOCKET |
| 1110 | 4822 146 10513 | TRANSFORMER /37 |
| 1110 | 4822 146 10633 | TRANSFORMER /21 |
| | 4822 321 10883 | MAINS CORD /37 |
| | 4822 321 10249 | MAINS CORD /21 |
| | 4822 445 10631 | 1X LOUDSPEAKER BOX /21 |
| | 4822 445 10608 | 1X LOUDSPEAKER BOX /37 |
| | 4822 219 10199 | REMOTE CONTROL /21 |
| | 4822 219 10201 | REMOTE CONTROL /37 |
| | 4822 303 50063 | FM AERIAL /21 |
| | 4822 320 11094 | FM ANTENNA WIRE |
| | 4822 303 50082 | AM FRAME AERIAL |
| | 4822 736 15086 | INSTRUCTION FOR USE /21 |
| | 4822 736 15026 | INSTRUCTION FOR USE /37 |
| | 4822 691 10479 | TAPEDECK MECHANISM YSW27-500 |

Note : Only the parts mentioned in this list are normal service spare parts.

### *SCREW LISTS - MAIN UNIT*

| | |
|---|---|
| 222 | D3 X 12 |
| 248 | D3 X 10 |
| 249 | D3 X 10 |
| 251 | D3 X 12 |
| 252 | D3 X 10 |
| 253 | D3 X 10 |
| 255 | D3 X 12 |
| 258 | D3 X 12 |
| 261 | D3 X 10 |
| 263 | D3 X 12 |
| 273 | M3 X 10 |
| 275 | D3 X 12 |
| 282 | D3 X 12 |
| 284 | M3 X 6 |
| 296 | D3 X 10 |
| 302 | D3 X 12 |
| 303 | D3 X 12 |
| 304 | M3 X 6 |
| 305 | D3 X 12 |
| 307 | D3 X 12 |
| 306 | D3 X 6 |
| 309 | D3 X 10 |
| 310 | M3 X 6 |
| 311 | D3 X 10 |
| 312 | D3 X 10 |
| 313 | D3 X 10 |
| 324 | D3 X 12 |
| 316 | M3 X 6 |
| 318 | D3 X 6 |
| 319 | D3 X 6 |

# Loudspeaker Assembly for FW365C


Tweeter
Woofer
Front Panel Assy
Cloth Frame Assy

| | |
|---|---|
| Tweeter | 4822 240 10218 |
| Woofer | 4822 240 10219 |
| Front Panel Assy | 4822 459 04524 |
| Cloth Frame Assy | 4822 464 10282 |

**Philips Consumer Service GmbH**
Colonia-Allee 11, 51067 Köln
Tel.: 0221/96960-0, Fax: 0221/96960-809

PHILIPS

Art. Code: 53
Sachgebiet: AUDIO MIDI ANLAGEN
Memo: DE10WEG

SI

**Wichtig für die Werkstatt!**
Nummer: 53050
Datum: 26.01.98

Service Information

Betrifft: Gerätetypen siehe unten

Verteiler: S d F 1

GERÄTETYPEN: AS670C, AS675C, AS785C, FW315C, FW340C, FW355C, FW365C, FW373C, FW375P, FW385P, FW710C, FW725C, FW730C, FW745C, FW750C, FW770P, FW780P, FW790P

## ÄNDERUNG IN DER ERSATZTEILLISTE FÜR DAS CDC- 3 WECHSLER MODUL

*Auf der Seite 10 - 12 im Service Manual der oben genannten Geräte ist die Service Code Nummer für die flexfoil 17p genannt.*
*Das 17- polige Kabel wird für dieses Modul nicht benötigt.*
*Das korrekte Kabel ist ein 15- poliges Kabel. Das 15- polige Kabel ist auf der Seite 10 - 14 im Service Manual unter der Pos.- Nr.: 8002 und mit der Bestellnummer 4822 320 11313 genannt.*

***Diese Ersatzteilkorrektur betrifft nur das ältere CDC-3 Wechsler Modul, das mit dem Platinenaufdruck 3104 113 3109x versehen ist !***

Form 80 048

Nachdruck nicht gestattet! Änderungen vorbehalten.

# FW365

**A97 - 157**

Service
Service
**Service**

**Product Service Group CE Audio**

# Service Information

*Already published Service Informations:*

Due to error in some of the pages published, enclosed are corrected pages for adapting your Service documentation. Please remove and destroy the original pages.

| **Page** | **PCS no.** | **Remarks** |
|---|---|---|
| 6-1 | PCS 90 462 | Due to missing copper pattern |
| 6-2 | PCS 90 278 | - |
| 6-3 | PCS 90 464 | Due to missing copper pattern |
| 6-4 | PCS 90 211 | - |
| 9-1 | PCS 96 566 | Due to missing wiring & adjustment table |
| 9-2 | PCS 90 215 | - |

# FRONT BOARD

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Circuit diagram.................................................................. 6-2
Chip component layout...................................................... 6-3
LCD pin connection .......................................................... 6-3
Electrical parts list............................................................. 6-4

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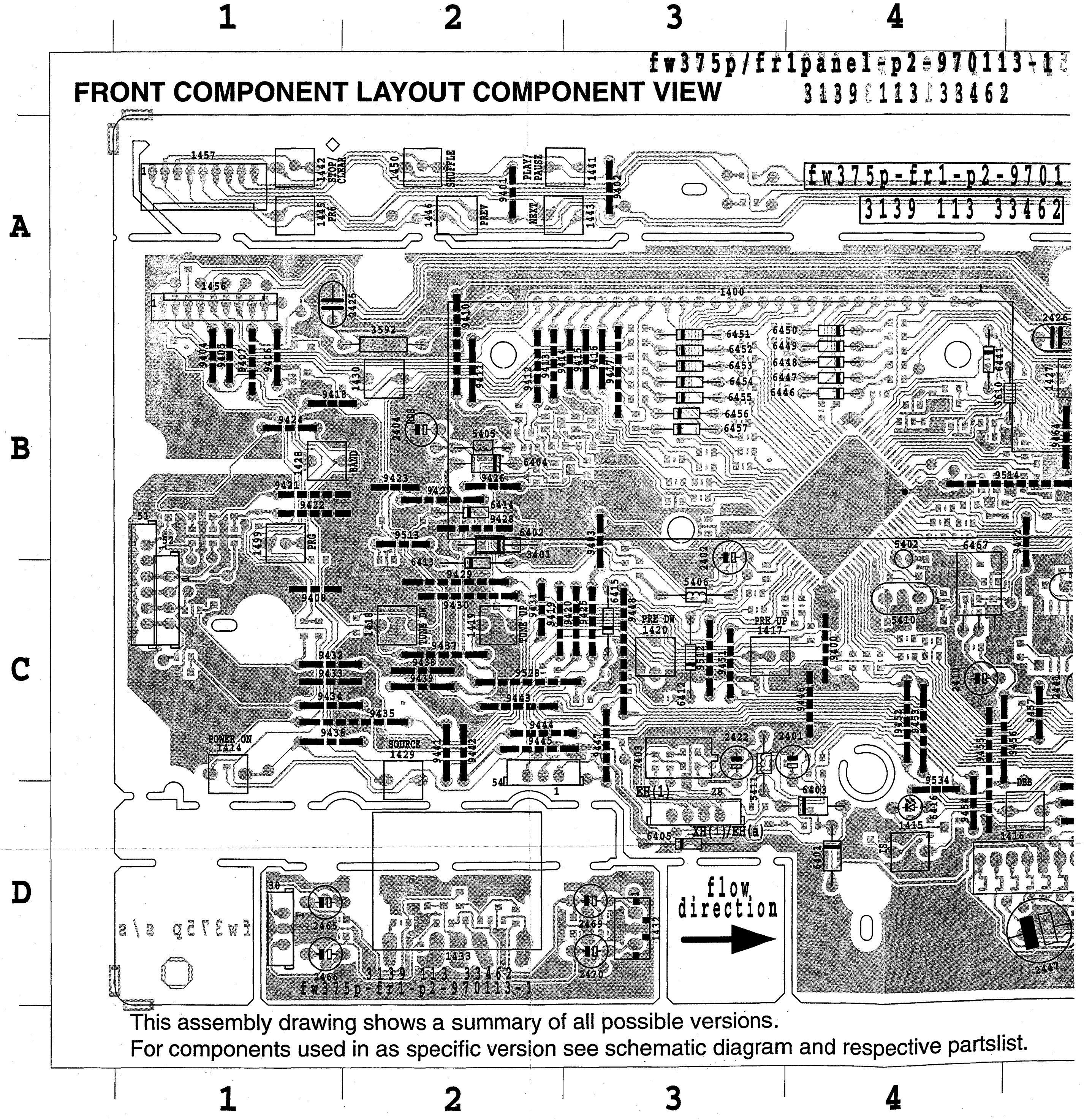
## COMPONENT LAYOUT DIAGRAM

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 28 D 3 | 1414 C 1 | 1426 B 5 | 1445 A 1 | 2404 B 2 | 3591 A 6 | 6403 D 4 | 6421 A 6 | 6454 B 3 | 9406 B 1 | 9419 C 2 | 9431 C |
| 30 D 1 | 1415 D 4 | 1427 B 5 | 1446 A 2 | 2410 C 4 | 3592 B 2 | 6404 B 2 | 6422 A 6 | 6455 B 3 | 9407 B 1 | 9420 C 3 | 9432 C |
| 51 C 1 | 1416 D 5 | 1428 B 1 | 1447 A 6 | 2422 C 3 | 3610 B 5 | 6405 D 3 | 6423 A 7 | 6456 B 3 | 9408 C 1 | 9421 B 1 | 9433 C |
| 52 C 1 | 1417 C 3 | 1429 D 2 | 1448 A 6 | 2425 A 1 | 5402 C 4 | 6412 C 3 | 6441 B 4 | 6457 B 3 | 9410 B 2 | 9422 B 1 | 9434 C |
| 54 C 2 | 1418 C 2 | 1430 B 2 | 1449 A 7 | 2426 B 5 | 5403 C 5 | 6413 C 2 | 6446 B 4 | 6467 C 4 | 9411 B 2 | 9423 B 2 | 9435 C |
| 55 B 7 | 1419 C 2 | 1431 B 5 | 1450 A 2 | 2441 C 5 | 5405 B 2 | 6414 B 2 | 6447 B 4 | 7403 C 3 | 9412 B 2 | 9424 B 1 | 9436 C |
| 1400 A 3 | 1420 C 3 | 1432 D 3 | 1456 A 1 | 2447 D 5 | 5406 C 3 | 6415 C 3 | 6448 B 4 | 9400 C 4 | 9413 B 2 | 9425 C 3 | 9437 C |
| 1401 D 5 | 1421 B 7 | 1433 D 2 | 1457 A 1 | 2465 D 1 | 5410 C 4 | 6416 D 4 | 6449 B 4 | 9401 A 2 | 9414 B 3 | 9426 B 2 | 9438 C |
| 1410 C 6 | 1422 A 7 | 1441 A 3 | 1468 B 7 | 2466 D 1 | 5411 C 3 | 6417 C 6 | 6450 A 4 | 9402 A 3 | 9415 B 3 | 9427 B 2 | 9439 C |
| 1411 C 7 | 1423 D 6 | 1442 A 1 | 1499 B 1 | 2469 D 3 | 5421 C 5 | 6418 C 6 | 6451 A 3 | 9403 B 3 | 9416 B 3 | 9428 B 2 | 9441 C |
| 1412 C 7 | 1424 B 6 | 1443 A 3 | 2401 C 4 | 2470 D 3 | 6401 D 4 | 6419 C 7 | 6452 B 3 | 9404 B 1 | 9417 B 3 | 9429 C 2 | 9442 C |
| 1413 C 6 | 1425 D 5 | 1444 A 7 | 2402 B 3 | 3401 B 2 | 6402 B 2 | 6420 C 7 | 6453 B 3 | 9405 B 1 | 9418 B 1 | 9430 C 2 | 9443 C |


1
2
3
4
fw375p/fr1panel-p2-970113-1
3139 113 33462
A
B
C
D
1457
1442 STOP/CLEAR
1445 PRG
1450
SHUFFLE
1446
PREV
9401
PLAY PAUSE
NEXT
1441
1443
9402
fw375p-fr1-p2-9701
3139 113 33462
1456
2425
3592
1400
6451
6452
6453
6454
6455
6456
6457
6450
6449
6448
6447
6446
9418
1430
2404
5405
6404
9426
9421
1428
BAND
9423
9422
6414
9428
6402
3401
51
52
1499
PRG
9513
6413
9429
9408
9430
TUNE DN
TUNE UP
1418
1419
9431
9437
9432
9433
9434
9435
9436
9438
9439
9443
9444
9445
POWER ON 1414
SOURCE 1429
54
2402
5406
PRE DN 1420
PRE UP 1417
9402
6467
5410
2410
2422
2401
6403
6405
XH(1)/EH(a)
EH(1)
28
6401
1416
1415
9534
DBB
2426
1427
30
2465
2466
1433
2469
2470
1432
3139 113 33462
fw375p-fr1-p2-970113-1
flow direction
2447
1
2
3
4

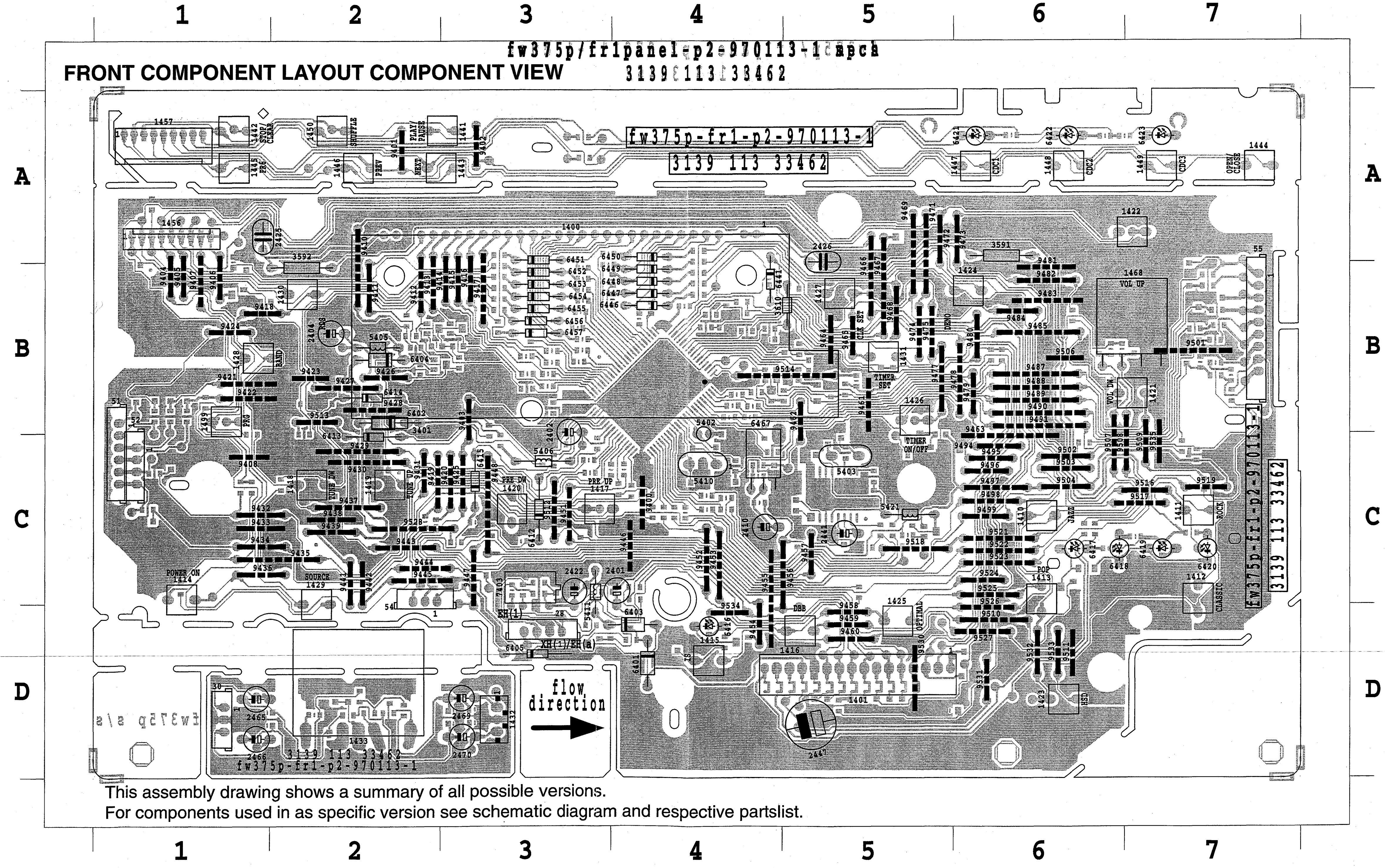
FRONT COMPONENT LAYOUT COMPONENT VIEW

This assembly drawing shows a summary of all possible versions.
For components used in as specific version see schematic diagram and respective partslist.

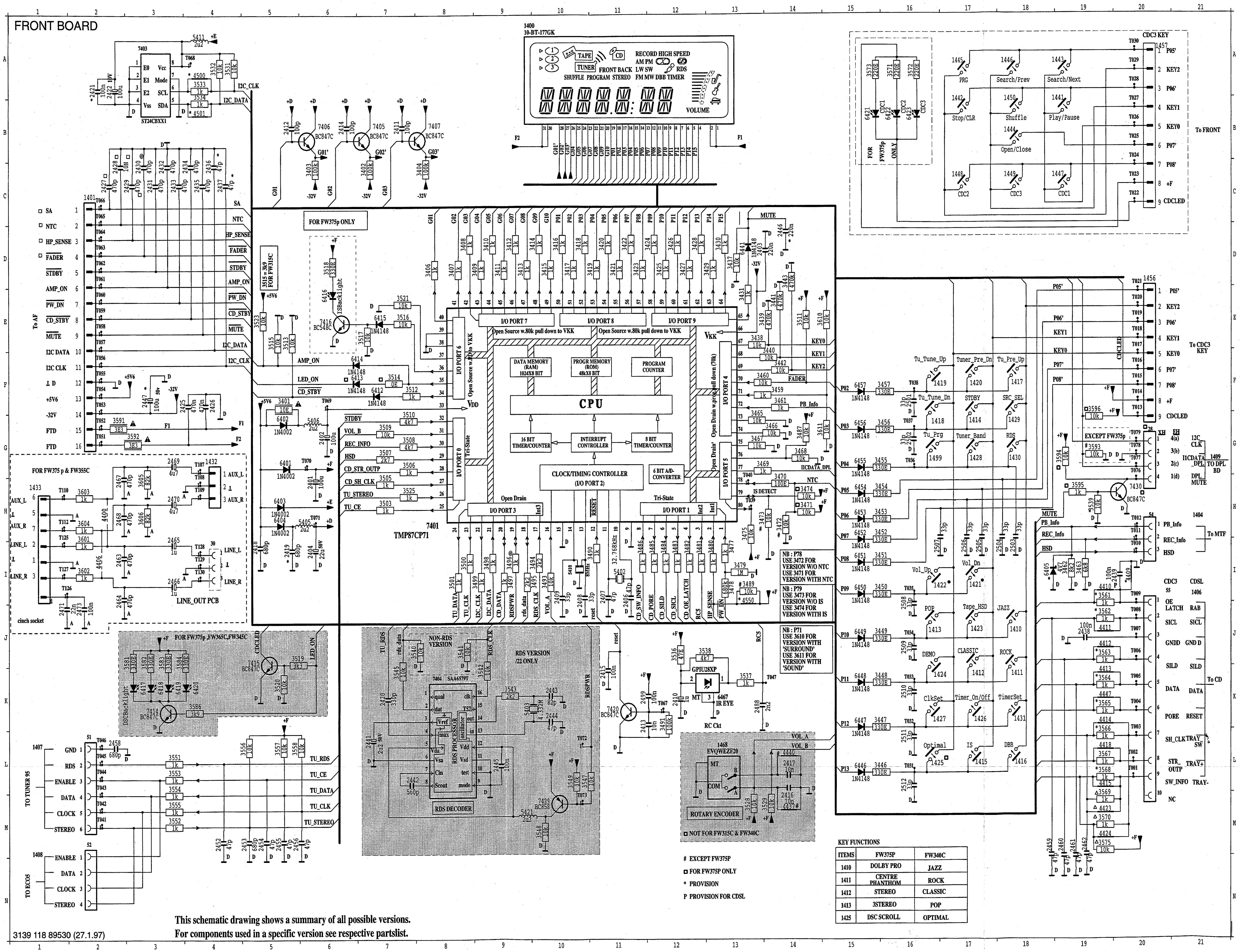
## COMPONENT LAYOUT DIAGRAM

| | | |
|---|---|---|
| 28 | D | 3 |
| 30 | D | 1 |
| 51 | C | 1 |
| 52 | C | 1 |
| 54 | C | 2 |
| 55 | B | 7 |
| 1400 | A | 3 |
| 1401 | D | 5 |
| 1410 | C | 6 |
| 1411 | C | 7 |
| 1412 | C | 7 |
| 1413 | C | 6 |
| 1414 | C | 1 |
| 1415 | D | 4 |
| 1416 | D | 5 |
| 1417 | C | 3 |
| 1418 | C | 2 |
| 1419 | C | 2 |
| 1420 | C | 3 |
| 1421 | B | 7 |
| 1422 | A | 7 |
| 1423 | D | 6 |
| 1424 | B | 6 |
| 1425 | D | 5 |
| 1426 | B | 5 |
| 1427 | B | 5 |
| 1428 | B | 1 |
| 1429 | D | 2 |
| 1430 | B | 2 |
| 1431 | B | 5 |
| 1432 | D | 3 |
| 1433 | D | 2 |
| 1441 | A | 3 |
| 1442 | A | 1 |
| 1443 | A | 3 |
| 1444 | A | 7 |
| 1445 | A | 1 |
| 1446 | A | 2 |
| 1447 | A | 6 |
| 1448 | A | 6 |
| 1449 | A | 7 |
| 1450 | A | 2 |
| 1456 | A | 1 |
| 1457 | A | 1 |
| 1468 | B | 7 |
| 1499 | B | 1 |
| 2401 | C | 4 |
| 2402 | B | 3 |
| 2404 | B | 2 |
| 2410 | C | 4 |
| 2422 | C | 3 |
| 2425 | A | 1 |
| 2426 | B | 5 |
| 2441 | C | 5 |
| 2447 | D | 5 |
| 2465 | D | 1 |
| 2466 | D | 1 |
| 2469 | D | 3 |
| 2470 | D | 3 |
| 3401 | B | 2 |
| 3591 | A | 6 |
| 3592 | B | 2 |
| 3610 | B | 5 |
| 5402 | C | 4 |
| 5403 | C | 5 |
| 5405 | B | 2 |
| 5406 | C | 3 |
| 5410 | C | 4 |
| 5411 | C | 3 |
| 5421 | C | 5 |
| 6401 | D | 4 |
| 6402 | B | 2 |
| 6403 | D | 4 |
| 6404 | B | 2 |
| 6405 | D | 3 |
| 6412 | C | 3 |
| 6413 | C | 2 |
| 6414 | B | 2 |
| 6415 | C | 3 |
| 6416 | D | 4 |
| 6417 | C | 6 |
| 6418 | C | 6 |
| 6419 | C | 7 |
| 6420 | C | 7 |
| 6421 | A | 6 |
| 6422 | A | 6 |
| 6423 | A | 7 |
| 6441 | B | 4 |
| 6446 | B | 4 |
| 6447 | B | 4 |
| 6448 | B | 4 |
| 6449 | B | 4 |
| 6450 | A | 4 |
| 6451 | A | 3 |
| 6452 | B | 3 |
| 6453 | B | 3 |
| 6454 | B | 3 |
| 6455 | B | 3 |
| 6456 | B | 3 |
| 6457 | B | 3 |
| 6467 | C | 4 |
| 7403 | C | 3 |
| 9400 | C | 4 |
| 9401 | A | 2 |
| 9402 | A | 3 |
| 9403 | B | 3 |
| 9404 | B | 1 |
| 9405 | B | 1 |
| 9406 | B | 1 |
| 9407 | B | 1 |
| 9408 | C | 1 |
| 9410 | B | 2 |
| 9411 | B | 2 |
| 9412 | B | 2 |
| 9413 | B | 2 |
| 9414 | B | 3 |
| 9415 | B | 3 |
| 9416 | B | 3 |
| 9417 | B | 3 |
| 9418 | B | 1 |
| 9419 | C | 2 |
| 9420 | C | 3 |
| 9421 | B | 1 |
| 9422 | B | 1 |
| 9423 | B | 2 |
| 9424 | B | 1 |
| 9425 | C | 3 |
| 9426 | B | 2 |
| 9427 | B | 2 |
| 9428 | B | 2 |
| 9429 | C | 2 |
| 9430 | C | 2 |
| 9431 | C | 2 |
| 9432 | C | 1 |
| 9433 | C | 1 |
| 9434 | C | 1 |
| 9435 | C | 2 |
| 9436 | C | 1 |
| 9437 | C | 2 |
| 9438 | C | 2 |
| 9439 | C | 2 |
| 9441 | C | 2 |
| 9442 | C | 2 |
| 9443 | C | 2 |
| 9444 | C | 2 |
| 9445 | C | 2 |
| 9446 | C | 4 |
| 9447 | C | 3 |
| 9448 | C | 3 |
| 9451 | C | 3 |
| 9452 | C | 4 |
| 9453 | C | 4 |
| 9454 | D | 4 |
| 9455 | C | 4 |
| 9456 | C | 5 |
| 9457 | C | 5 |
| 9458 | D | 5 |
| 9459 | D | 5 |
| 9460 | D | 5 |
| 9461 | B | 5 |
| 9462 | B | 5 |
| 9463 | C | 6 |
| 9464 | B | 5 |
| 9465 | B | 5 |
| 9466 | B | 5 |
| 9467 | B | 5 |
| 9468 | B | 5 |
| 9469 | A | 5 |
| 9471 | A | 5 |
| 9472 | A | 5 |
| 9473 | A | 6 |
| 9474 | B | 5 |
| 9475 | B | 5 |
| 9477 | B | 5 |
| 9478 | B | 6 |
| 9479 | B | 6 |
| 9480 | B | 6 |
| 9481 | B | 6 |
| 9482 | B | 6 |
| 9483 | B | 6 |
| 9484 | B | 6 |
| 9485 | B | 6 |
| 9487 | B | 6 |
| 9488 | B | 6 |
| 9489 | B | 6 |
| 9490 | B | 6 |
| 9491 | B | 6 |
| 9494 | C | 6 |
| 9495 | C | 6 |
| 9496 | C | 6 |
| 9497 | C | 6 |
| 9498 | C | 6 |
| 9499 | C | 6 |
| 9501 | B | 7 |
| 9502 | C | 6 |
| 9503 | C | 6 |
| 9504 | C | 6 |
| 9506 | B | 6 |
| 9507 | C | 6 |
| 9508 | C | 7 |
| 9509 | C | 7 |
| 9510 | D | 6 |
| 9511 | D | 6 |
| 9512 | C | 3 |
| 9513 | B | 2 |
| 9514 | B | 5 |
| 9516 | C | 7 |
| 9517 | C | 7 |
| 9518 | C | 5 |
| 9519 | C | 7 |
| 9521 | C | 6 |
| 9522 | C | 6 |
| 9523 | C | 6 |
| 9524 | C | 6 |
| 9525 | C | 6 |
| 9526 | D | 6 |
| 9527 | D | 6 |
| 9528 | C | 2 |
| 9530 | D | 5 |
| 9531 | D | 6 |
| 9532 | D | 6 |
| 9533 | D | 6 |
| 9534 | D | 4 |
| 9535 | C | 7 |
| ---- | | |

### FRONT COMPONENT LAYOUT COMPONENT VIEW


1
2
3
4
5
6
7
A
B
C
D
fw375p/fr1panel-p2-970113-1 mpch
3139 113 33462
fw375p-fr1-p2-970113-1
3139 113 33462
STOP/CLEAR
SHUFFLE
PLAY/PAUSE
PREV
NEXT
PRG
CDC1
CDC2
CDC3
OPEN/CLOSE
VOL UP
VOL DW
CLK SET
DEMO
TIMER SET
TIMER ON/OFF
BAND
TUNE DW
TUNE UP
PRE DW
PRE UP
POWER ON
SOURCE
JAZZ
ROCK
POP
CLASSIC
DBB
OPTIMAL
IS
flow direction
fw375p s/s
3139 113 33462
fw375p-fr1-p2-970113-1

This assembly drawing shows a summary of all possible versions.
For components used in as specific version see schematic diagram and respective partslist.

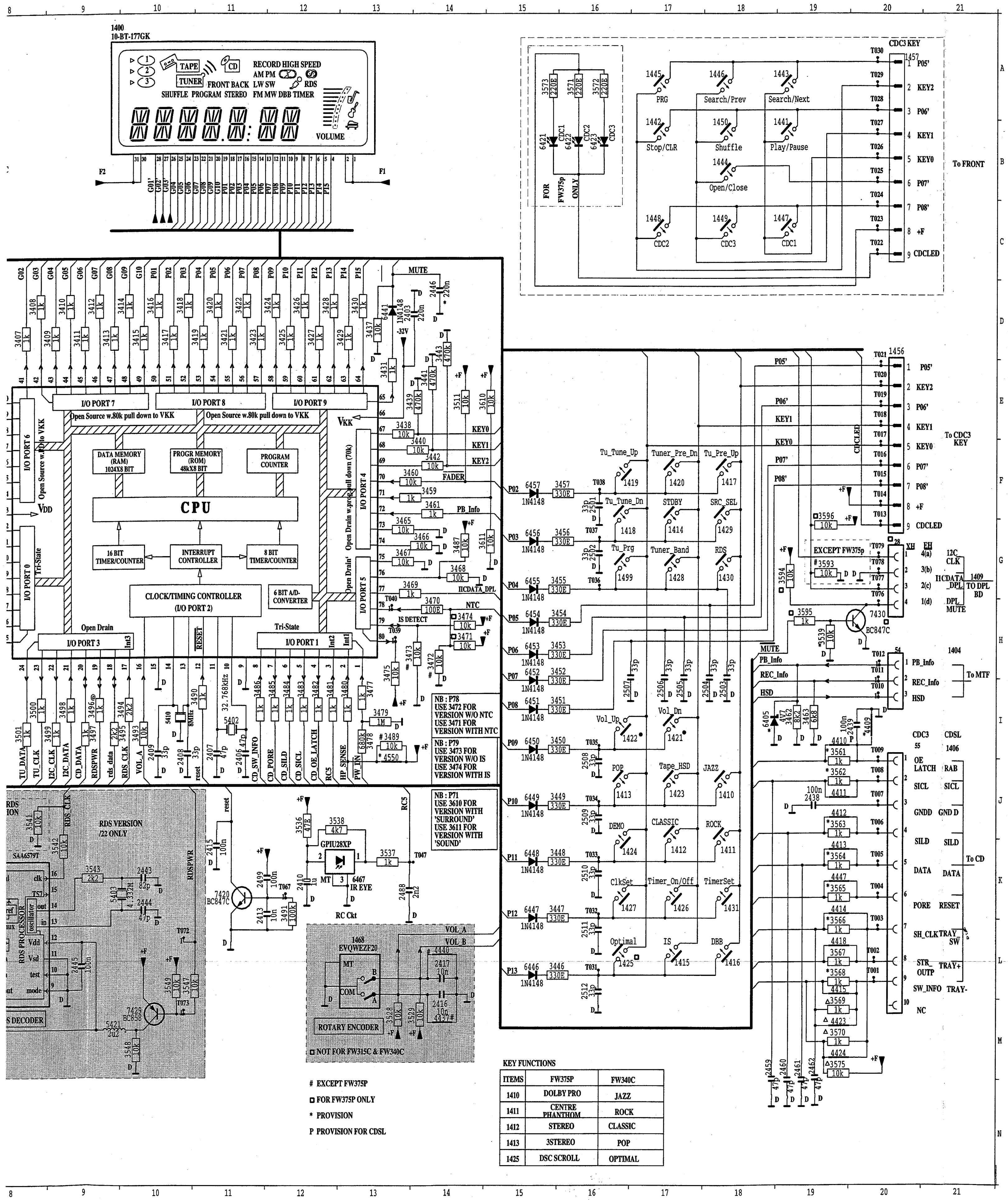

FRONT BOARD
CPU
7401
TMP87CP71
1400
10-BT-177GK
RDS DECODER
SAA6579T
RDS VERSION /22 ONLY
NON-RDS VERSION
ROTARY ENCODER
EVQWEZF20
GP1U28XP
IR EYE
CDC3 KEY
To FRONT
To CDC3 KEY
To AF
TO TUNER 95
TO ECO5
To CD
To MTF
TO DPL BD
LINE_OUT PCB
cinch socket
FOR FW375p & FW355C
FOR FW375p ,FW365C,FW345C
FOR FW375p ONLY
EXCEPT FW375p
NOT FOR FW315C & FW340C
NB : P78 USE 3472 FOR VERSION W/O NTC USE 3471 FOR VERSION WITH NTC
NB : P79 USE 3473 FOR VERSION W/O IS USE 3474 FOR VERSION WITH IS
NB : P71 USE 3610 FOR VERSION WITH 'SURROUND' USE 3611 FOR VERSION WITH 'SOUND'
# EXCEPT FW375P
□ FOR FW375P ONLY
* PROVISION
P PROVISION FOR CDSL
3139 118 89530 (27.1.97)

KEY FUNCTIONS

| ITEMS | FW375P | FW340C |
|---|---|---|
| 1410 | DOLBY PRO | JAZZ |
| 1411 | CENTRE PHANTHOM | ROCK |
| 1412 | STEREO | CLASSIC |
| 1413 | 3STEREO | POP |
| 1425 | DSC SCROLL | OPTIMAL |

This schematic drawing shows a summary of all possible versions.
For components used in a specific version see respective partslist.

| | |
|---|---|
| 1400 | A 9 |
| 1401 | C 2 |
| 1410 | I17 |
| 1411 | J17 |
| 1412 | J16 |
| 1413 | I16 |
| 1414 | F16 |
| 1415 | K17 |
| 1416 | K17 |
| 1417 | F17 |
| 1418 | G16 |
| 1419 | F16 |
| 1420 | F17 |
| 1421 | I16 |
| 1422 | I16 |
| 1423 | I16 |
| 1424 | J16 |
| 1425 | K16 |
| 1426 | J17 |
| 1427 | J16 |
| 1428 | G16 |
| 1429 | F17 |
| 1430 | G17 |
| 1431 | J17 |
| 1432 | G 4 |
| 1433 | H 1 |
| 1441 | B18 |
| 1442 | B17 |
| 1443 | A18 |
| 1444 | B18 |
| 1445 | A17 |
| 1446 | A18 |
| 1447 | C18 |
| 1448 | C17 |
| 1449 | C18 |
| 1450 | B18 |
| 1456 | D20 |
| 1457 | A20 |
| 1468 | L13 |
| 1499 | G16 |
| 2401 | H 6 |
| 2402 | G 6 |
| 2403 | D13 |
| 2404 | I 6 |
| 2406 | I11 |
| 2407 | I11 |
| 2408 | I10 |
| 2409 | I10 |
| 2410 | K12 |
| 2411 | B 7 |
| 2412 | B 5 |
| 2413 | K11 |
| 2414 | B 6 |
| 2415 | K11 |
| 2416 | L14 |
| 2417 | L14 |
| 2418 | I 5 |
| 2419 | I 5 |
| 2420 | K 7 |
| 2421 | A 2 |
| 2422 | A 2 |
| 2425 | F 4 |
| 2426 | F 4 |
| 2427 | C 2 |
| 2428 | C 2 |
| 2429 | C 3 |
| 2430 | C 3 |
| 2431 | C 3 |
| 2432 | C 3 |
| 2433 | C 3 |
| 2434 | C 4 |
| 2435 | C 4 |
| 2436 | C 4 |
| 2437 | C 4 |
| 2438 | J18 |
| 2439 | I19 |
| 2441 | L 7 |
| 2442 | L 7 |
| 2443 | K10 |
| 2444 | K10 |
| 2445 | L 9 |
| 2446 | D14 |
| 2447 | F 3 |
| 2452 | M 4 |
| 2453 | M 5 |
| 2454 | M 5 |
| 2455 | M 5 |
| 2456 | M 5 |
| 2458 | L 2 |
| 2459 | M18 |
| 2460 | M18 |
| 2461 | M18 |
| 2462 | M19 |
| 2463 | H 2 |
| 2464 | H 3 |
| 2465 | G 3 |
| 2466 | H 2 |
| 2467 | I 3 |
| 2468 | I 3 |
| 2469 | I 2 |
| 2470 | I 2 |
| 2471 | J 1 |
| 2473 | J 2 |
| 2488 | K13 |
| 2499 | K11 |
| 2501 | F16 |
| 2502 | G16 |
| 2503 | G17 |
| 2504 | H17 |
| 2505 | H17 |
| 2506 | H16 |
| 2507 | H16 |
| 2508 | I16 |
| 2509 | J16 |
| 2510 | J16 |
| 2511 | K16 |
| 2512 | K16 |
| 28 | G20 |
| 30 | I 4 |
| 3401 | F 5 |
| 3402 | C 7 |
| 3403 | C 6 |
| 3404 | C 8 |
| 3406 | D 8 |
| 3407 | D 8 |
| 3408 | D 8 |
| 3409 | D 9 |
| 3410 | D 9 |
| 3411 | D 9 |
| 3412 | D 9 |
| 3413 | D 9 |
| 3414 | D10 |
| 3415 | D10 |
| 3416 | D10 |
| 3417 | D10 |
| 3418 | D10 |
| 3419 | D11 |
| 3420 | D11 |
| 3421 | D11 |
| 3422 | D11 |
| 3423 | D11 |
| 3424 | D12 |
| 3425 | D12 |
| 3426 | D12 |
| 3427 | D12 |
| 3428 | D12 |
| 3429 | D13 |
| 3430 | D13 |
| 3431 | E13 |
| 3437 | D13 |
| 3438 | E13 |
| 3439 | E13 |
| 3440 | F14 |
| 3441 | E14 |
| 3442 | F14 |
| 3443 | D14 |
| 3446 | K15 |
| 3447 | J15 |
| 3448 | J15 |
| 3449 | I15 |
| 3450 | I15 |
| 3451 | H16 |
| 3452 | H16 |
| 3453 | H16 |
| 3454 | H16 |
| 3455 | G16 |
| 3456 | G16 |
| 3457 | F16 |
| 3459 | F14 |
| 3460 | F13 |
| 3461 | F14 |
| 3462 | I18 |
| 3463 | I18 |
| 3465 | G13 |
| 3466 | G14 |
| 3467 | G13 |
| 3468 | G14 |
| 3469 | G13 |
| 3470 | H14 |
| 3471 | H14 |
| 3472 | H14 |
| 3473 | H13 |
| 3474 | H14 |
| 3475 | H13 |
| 3477 | I13 |
| 3478 | I13 |
| 3479 | I13 |
| 3480 | I13 |
| 3481 | I12 |
| 3482 | I12 |
| 3483 | I12 |
| 3484 | I12 |
| 3485 | I12 |
| 3486 | I11 |
| 3487 | G14 |
| 3489 | I13 |
| 3490 | I11 |
| 3491 | K12 |
| 3493 | I10 |
| 3494 | I10 |
| 3495 | I10 |
| 3496 | I 9 |
| 3497 | I 9 |
| 3498 | I 9 |
| 3499 | I 9 |
| 3500 | I 8 |
| 3501 | I 8 |
| 3503 | H 7 |
| 3505 | H 7 |
| 3506 | G 7 |
| 3507 | G 7 |
| 3508 | G 7 |
| 3509 | G 7 |
| 3510 | G 7 |
| 3511 | E14 |
| 3512 | F 7 |
| 3513 | E 5 |
| 3514 | F 7 |
| 3515 | E 5 |
| 3516 | E 7 |
| 3517 | E 7 |
| 3518 | D 6 |
| 3519 | J 5 |
| 3520 | K 5 |
| 3521 | E 7 |
| 3523 | E 5 |
| 3525 | H 7 |
| 3528 | M13 |
| 3529 | M14 |
| 3531 | A 4 |
| 3532 | A 4 |
| 3533 | A 4 |
| 3534 | A 4 |
| 3536 | J12 |
| 3537 | K13 |
| 3538 | J12 |
| 3539 | H19 |
| 3540 | J 7 |
| 3541 | J 8 |
| 3542 | K 9 |
| 3543 | K 9 |
| 3545 | K 7 |
| 3547 | L10 |
| 3548 | M10 |
| 3549 | L10 |
| 3551 | L 3 |
| 3552 | M 3 |
| 3553 | L 3 |
| 3554 | L 3 |
| 3555 | M 3 |
| 3556 | L 5 |
| 3557 | L 5 |
| 3558 | L 5 |
| 3561 | I19 |
| 3562 | J19 |
| 3563 | J19 |
| 3564 | K19 |
| 3565 | K19 |
| 3566 | L19 |
| 3567 | L19 |
| 3568 | L19 |
| 3569 | M19 |
| 3570 | M19 |
| 3571 | A16 |
| 3572 | A16 |
| 3573 | A15 |
| 3575 | M19 |
| 3581 | J 3 |
| 3582 | J 3 |
| 3583 | J 3 |
| 3584 | J 3 |
| 3586 | K 4 |
| 3591 | G 2 |
| 3592 | G 3 |
| 3593 | G19 |
| 3594 | G18 |
| 3595 | H18 |
| 3596 | F19 |
| 3600 | I 2 |
| 3601 | H 2 |
| 3602 | H 2 |
| 3603 | H 2 |
| 3604 | H 3 |
| 3605 | H 3 |
| 3610 | E14 |
| 3611 | G14 |
| 4400 | H 2 |
| 4406 | I 2 |
| 4409 | I19 |
| 4410 | I19 |
| 4411 | J19 |
| 4412 | J19 |
| 4413 | K19 |
| 4414 | K19 |
| 4415 | L19 |
| 4418 | L19 |
| 4423 | M19 |
| 4424 | M19 |
| 4437 | M14 |
| 4440 | L14 |
| 4447 | K19 |
| 4500 | A 4 |
| 4501 | B 4 |
| 4550 | J13 |
| 51 | L 2 |
| 52 | M 2 |
| 54 | H20 |
| 5402 | I11 |
| 5403 | K 9 |
| 5405 | H 6 |
| 5406 | G 6 |
| 5410 | I10 |
| 5411 | [illegible] |
| 5421 | [illegible] |
| 55 | [illegible] |
| 6401 | [illegible] |
| 6402 | [illegible] |
| 6403 | [illegible] |
| 6404 | [illegible] |
| 6405 | [illegible] |
| 6412 | [illegible] |
| 6413 | [illegible] |
| 6414 | [illegible] |
| 6415 | [illegible] |
| 6416 | [illegible] |
| 6417 | [illegible] |
| 6418 | [illegible] |
| 6419 | [illegible] |
| 6420 | [illegible] |
| 6421 | [illegible] |
| 6422 | [illegible] |
| 6423 | [illegible] |
| 6441 | [illegible] |
| 6446 | K |
| 6447 | K |
| 6448 | J |
| 6449 | J |
| 6450 | I |
| 6451 | I |
| 6452 | H |
| 6453 | H |
| 6454 | H |
| 6455 | G |
| 6456 | G |
| 6457 | F |
| 6467 | K |
| 7401 | H |
| 7403 | A |
| 7404 | K |
| 7405 | B |
| 7406 | B |
| 7407 | B |
| 7414 | K |
| 7415 | J |
| 7416 | E |
| 7420 | K |
| 7429 | M |
| 7430 | H |


1400
10-BT-177GK
TAPE
CD
TUNER
RECORD HIGH SPEED
AM PM
FRONT BACK LW SW
RDS
SHUFFLE PROGRAM STEREO FM MW DBB TIMER
VOLUME
F2
F1
CDC3 KEY
To FRONT
FOR FW375p ONLY
Stop/CLR
Shuffle
Play/Pause
Open/Close
PRG
Search/Prev
Search/Next
CDC2
CDC3
CDC1
MUTE
I/O PORT 7
I/O PORT 8
I/O PORT 9
I/O PORT 6
I/O PORT 0
I/O PORT 4
I/O PORT 5
I/O PORT 3
I/O PORT 1
Open Source w.80k pull down to VKK
DATA MEMORY (RAM) 1024X8 BIT
PROGR MEMORY (ROM) 48kX8 BIT
PROGRAM COUNTER
CPU
16 BIT TIMER/COUNTER
INTERRUPT CONTROLLER
8 BIT TIMER/COUNTER
CLOCK/TIMING CONTROLLER (I/O PORT 2)
6 BIT A/D-CONVERTER
Open Drain
Tri-State
VKK
VDD
KEY0
KEY1
KEY2
FADER
PB_Info
I1CDATA_DPL
NTC
IS DETECT
To CDC3 KEY
CDCLED
EXCEPT FW375p
I2C CLK
I1CDATA
DPL
DPL_MUTE
1409
TO DPL BD
BC847C
PB_Info
REC_Info
HSD
1404
To MTF
CDC3
CDSL
OE LATCH
SICL
GNDD
SILD
DATA
PORE
SH_CLK
STR_OUTP
SW_INFO
NC
RAB
GND D
RESET
TRAY_SW
TRAY+
TRAY-
To CD
1406
Tu_Tune_Up
Tuner_Pre_Dn
Tu_Pre_Up
Tu_Tune_Dn
STDBY
SRC_SEL
Tu_Prg
Tuner_Band
RDS
Vol_Up
Vol_Dn
POP
Tape_HSD
JAZZ
DEMO
CLASSIC
ROCK
ClkSet
Timer_On/Off
TimerSet
Optimal
IS
DBB
TU_DATA
TU_CLK
I2C_CLK
I2C_DATA
CD_DATA
RDSPWR
rds_data
RDS_CLK
VOL_A
VOL_B
CD_SW_INFO
CD_PORE
CD_SICL
CD_SILD
CD_OE_LATCH
RC5
HP_SENSE
PW_DN
32.768kHz
RDS VERSION /22 ONLY
SAA6579T
RDS PROCESSOR
RDS DECODER
GP1U28XP
IR EYE
RC Ckt
1468
EVQWEZF20
ROTARY ENCODER
NOT FOR FW315C & FW340C
BC847C
BC858

NB : P78
USE 3472 FOR
VERSION W/O NTC
USE 3471 FOR
VERSION WITH NTC

NB : P79
USE 3473 FOR
VERSION W/O IS
USE 3474 FOR
VERSION WITH IS

NB : P71
USE 3610 FOR
VERSION WITH
'SURROUND'
USE 3611 FOR
VERSION WITH
'SOUND'

# EXCEPT FW375P
□ FOR FW375P ONLY
* PROVISION
P PROVISION FOR CDSL

KEY FUNCTIONS

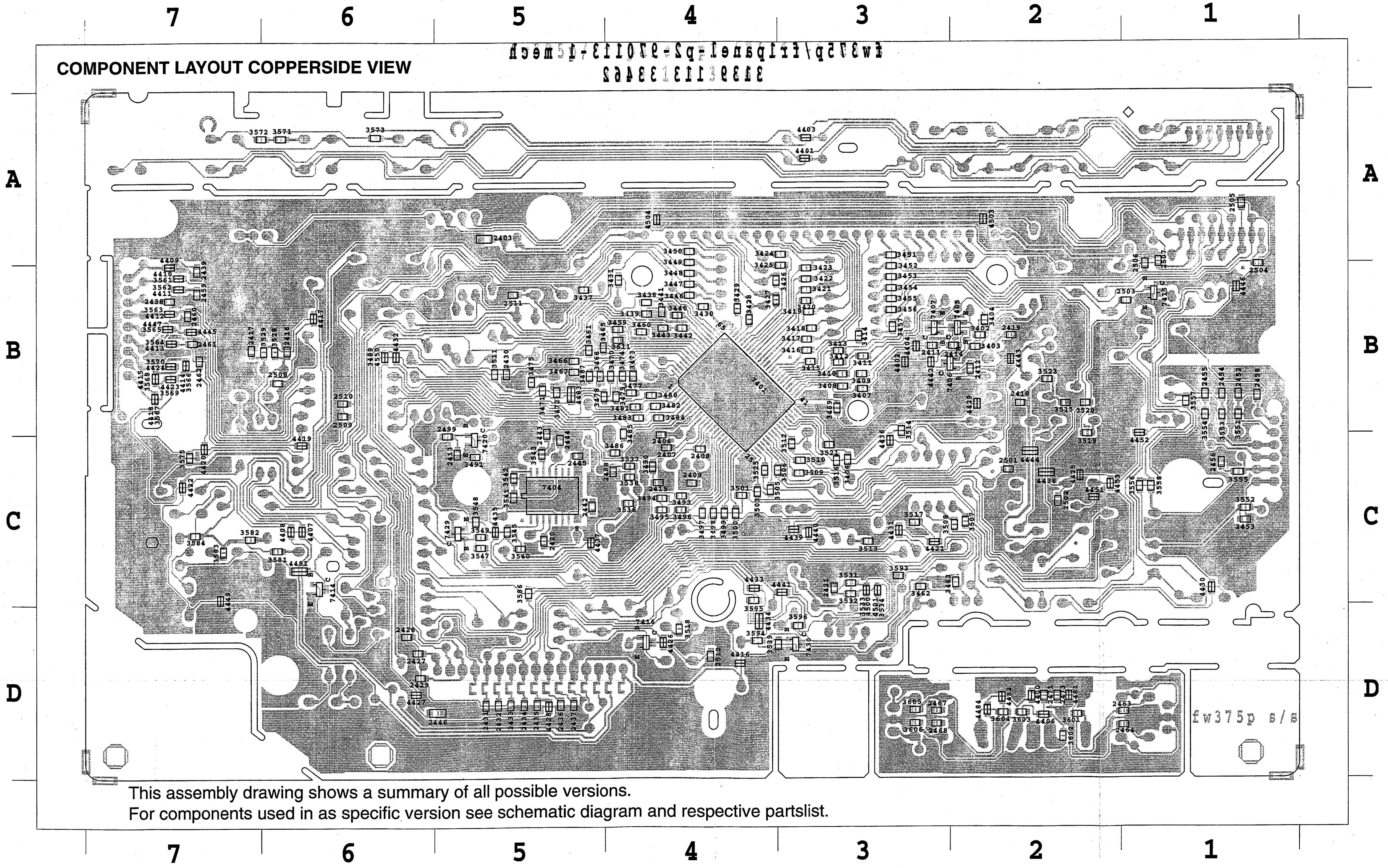
| ITEMS | FW375P | FW340C |
|---|---|---|
| 1410 | DOLBY PRO | JAZZ |
| 1411 | CENTRE PHANTHOM | ROCK |
| 1412 | STEREO | CLASSIC |
| 1413 | 3STEREO | POP |
| 1425 | DSC SCROLL | OPTIMAL |

| | | | | | |
|---|---|---|---|---|---|
| 1400 | A 9 | 3446 | K15 | 5411 | A 4 |
| 1401 | C 2 | 3447 | J15 | 5421 | M 9 |
| 1410 | I17 | 3448 | J15 | 55 | I20 |
| 1411 | J17 | 3449 | I15 | 6401 | G 5 |
| 1412 | J16 | 3450 | I15 | 6402 | G 5 |
| 1413 | I16 | 3451 | H16 | 6403 | H 5 |
| 1414 | F16 | 3452 | H16 | 6404 | H 5 |
| 1415 | K17 | 3453 | H16 | 6405 | I18 |
| 1416 | K17 | 3454 | H16 | 6412 | F 7 |
| 1417 | F17 | 3455 | G16 | 6413 | F 6 |
| 1418 | G16 | 3456 | G16 | 6414 | F 6 |
| 1419 | F16 | 3457 | F16 | 6415 | E 7 |
| 1420 | F17 | 3459 | F14 | 6416 | E 6 |
| 1421 | I16 | 3460 | F13 | 6417 | K 3 |
| 1422 | I16 | 3461 | F14 | 6418 | K 3 |
| 1423 | I16 | 3462 | I18 | 6419 | K 3 |
| 1424 | J16 | 3463 | I18 | 6420 | K 4 |
| 1425 | K16 | 3465 | G13 | 6421 | B15 |
| 1426 | J17 | 3466 | G14 | 6422 | B16 |
| 1427 | J16 | 3467 | G13 | 6423 | B16 |
| 1428 | G16 | 3468 | G14 | 6441 | D13 |
| 1429 | F17 | 3469 | G13 | 6446 | K15 |
| 1430 | G17 | 3470 | H14 | 6447 | K15 |
| 1431 | J17 | 3471 | H14 | 6448 | J15 |
| 1432 | G 4 | 3472 | H14 | 6449 | J15 |
| 1433 | H 1 | 3473 | H13 | 6450 | I15 |
| 1441 | B18 | 3474 | H14 | 6451 | I15 |
| 1442 | B17 | 3475 | H13 | 6452 | H15 |
| 1443 | A18 | 3477 | I13 | 6453 | H15 |
| 1444 | B18 | 3478 | I13 | 6454 | H15 |
| 1445 | A17 | 3479 | I13 | 6455 | G15 |
| 1446 | A18 | 3480 | I13 | 6456 | G15 |
| 1447 | C18 | 3481 | I12 | 6457 | F15 |
| 1448 | C17 | 3482 | I12 | 6467 | K13 |
| 1449 | C18 | 3483 | I12 | 7401 | H 8 |
| 1450 | B18 | 3484 | I12 | 7403 | A 3 |
| 1456 | D20 | 3485 | I12 | 7404 | K 8 |
| 1457 | A20 | 3486 | I11 | 7405 | B 7 |
| 1468 | L13 | 3487 | G14 | 7406 | B 6 |
| 1499 | G16 | 3489 | I13 | 7407 | B 8 |
| 2401 | H 6 | 3490 | I11 | 7414 | K 3 |
| 2402 | G 6 | 3491 | K12 | 7415 | J 5 |
| 2403 | D13 | 3493 | I10 | 7416 | E 6 |
| 2404 | I 6 | 3494 | I10 | 7420 | K11 |
| 2406 | I11 | 3495 | I10 | 7429 | M10 |
| 2407 | I11 | 3496 | I 9 | 7430 | H19 |
| 2408 | I10 | 3497 | I 9 | | |
| 2409 | I10 | 3498 | I 9 | | |
| 2410 | K12 | 3499 | I 9 | | |
| 2411 | B 7 | 3500 | I 8 | | |
| 2412 | B 5 | 3501 | I 8 | | |
| 2413 | K11 | 3503 | H 7 | | |
| 2414 | B 6 | 3505 | H 7 | | |
| 2415 | K11 | 3506 | G 7 | | |
| 2416 | L14 | 3507 | G 7 | | |
| 2417 | L14 | 3508 | G 7 | | |
| 2418 | I 5 | 3509 | G 7 | | |
| 2419 | I 5 | 3510 | G 7 | | |
| 2420 | K 7 | 3511 | E14 | | |
| 2421 | A 2 | 3512 | F 7 | | |
| 2422 | A 2 | 3513 | E 5 | | |
| 2425 | F 4 | 3514 | F 7 | | |
| 2426 | F 4 | 3515 | E 5 | | |
| 2427 | C 2 | 3516 | E 7 | | |
| 2428 | C 2 | 3517 | E 7 | | |
| 2429 | C 3 | 3518 | D 6 | | |
| 2430 | C 3 | 3519 | J 5 | | |
| 2431 | C 3 | 3520 | K 5 | | |
| 2432 | C 3 | 3521 | E 7 | | |
| 2433 | C 3 | 3523 | E 5 | | |
| 2434 | C 4 | 3525 | H 7 | | |
| 2435 | C 4 | 3528 | M13 | | |
| 2436 | C 4 | 3529 | M14 | | |
| 2437 | C 4 | 3531 | A 4 | | |
| 2438 | J18 | 3532 | A 4 | | |
| 2439 | I19 | 3533 | A 4 | | |
| 2441 | L 7 | 3534 | A 4 | | |
| 2442 | L 7 | 3536 | J12 | | |
| 2443 | K10 | 3537 | K13 | | |
| 2444 | K10 | 3538 | J12 | | |
| 2445 | L 9 | 3539 | H19 | | |
| 2446 | D14 | 3540 | J 7 | | |
| 2447 | F 3 | 3541 | J 8 | | |
| 2452 | M 4 | 3542 | K 9 | | |
| 2453 | M 5 | 3543 | K 9 | | |
| 2454 | M 5 | 3545 | K 7 | | |
| 2455 | M 5 | 3547 | L10 | | |
| 2456 | M 5 | 3548 | M10 | | |
| 2458 | L 2 | 3549 | L10 | | |
| 2459 | M18 | 3551 | L 3 | | |
| 2460 | M18 | 3552 | M 3 | | |
| 2461 | M18 | 3553 | L 3 | | |
| 2462 | M19 | 3554 | L 3 | | |
| 2463 | H 2 | 3555 | M 3 | | |
| 2464 | H 3 | 3556 | L 5 | | |
| 2465 | G 3 | 3557 | L 5 | | |
| 2466 | H 2 | 3558 | L 5 | | |
| 2467 | I 3 | 3561 | I19 | | |
| 2468 | I 3 | 3562 | J19 | | |
| 2469 | I 2 | 3563 | J19 | | |
| 2470 | I 2 | 3564 | K19 | | |
| 2471 | J 1 | 3565 | K19 | | |
| 2473 | J 2 | 3566 | L19 | | |
| 2488 | K13 | 3567 | L19 | | |
| 2499 | K11 | 3568 | L19 | | |
| 2501 | F16 | 3569 | M19 | | |
| 2502 | G16 | 3570 | M19 | | |
| 2503 | G17 | 3571 | A16 | | |
| 2504 | H17 | 3572 | A16 | | |
| 2505 | H17 | 3573 | A15 | | |
| 2506 | H16 | 3575 | M19 | | |
| 2507 | H16 | 3581 | J 3 | | |
| 2508 | I16 | 3582 | J 3 | | |
| 2509 | J16 | 3583 | J 3 | | |
| 2510 | J16 | 3584 | J 3 | | |
| 2511 | K16 | 3586 | K 4 | | |
| 2512 | K16 | 3591 | G 2 | | |
| 28 | G20 | 3592 | G 3 | | |
| 30 | I 4 | 3593 | G19 | | |
| 3401 | F 5 | 3594 | G18 | | |
| 3402 | C 7 | 3595 | H18 | | |
| 3403 | C 6 | 3596 | F19 | | |
| 3404 | C 8 | 3600 | I 2 | | |
| 3406 | D 8 | 3601 | H 2 | | |
| 3407 | D 8 | 3602 | H 2 | | |
| 3408 | D 8 | 3603 | H 2 | | |
| 3409 | D 9 | 3604 | H 3 | | |
| 3410 | D 9 | 3605 | H 3 | | |
| 3411 | D 9 | 3610 | E14 | | |
| 3412 | D 9 | 3611 | G14 | | |
| 3413 | D 9 | 4400 | H 2 | | |
| 3414 | D10 | 4406 | I 2 | | |
| 3415 | D10 | 4409 | I19 | | |
| 3416 | D10 | 4410 | I19 | | |
| 3417 | D10 | 4411 | J19 | | |
| 3418 | D10 | 4412 | J19 | | |
| 3419 | D11 | 4413 | K19 | | |
| 3420 | D11 | 4414 | K19 | | |
| 3421 | D11 | 4415 | L19 | | |
| 3422 | D11 | 4418 | L19 | | |
| 3423 | D11 | 4423 | M19 | | |
| 3424 | D12 | 4424 | M19 | | |
| 3425 | D12 | 4437 | M14 | | |
| 3426 | D12 | 4440 | L14 | | |
| 3427 | D12 | 4447 | K19 | | |
| 3428 | D12 | 4500 | A 4 | | |
| 3429 | D13 | 4501 | B 4 | | |
| 3430 | D13 | 4550 | J13 | | |
| 3431 | E13 | 51 | L 2 | | |
| 3437 | D13 | 52 | M 2 | | |
| 3438 | E13 | 54 | H20 | | |
| 3439 | E13 | 5402 | I11 | | |
| 3440 | F14 | 5403 | K 9 | | |
| 3441 | E14 | 5405 | H 6 | | |
| 3442 | F14 | 5406 | G 6 | | |
| 3443 | D14 | 5410 | I10 | | |

| | |
|---|---|
| +5V6 | F2,E5,F5 |
| +D | B5-8,I5 |
| +E | A4,H6 |
| +F | D6,G6,L5,E14,H14,I13<br>J14,J12,K11,M13,L10<br>F19,M20,C21,F21 |
| -32V | G2,C8,E13 |
| _DPL | G21 |
| 12C_CLK | A4 |
| 12C_DATA | B4 |
| AMP_ON | E2,E4 |
| AUX_L | H1,G4 |
| AUX_R | H1,H4 |
| CD_STBY | E2,E4 |
| CDLED | C21,G21 |
| DATA | K21 |
| DPL_MUTE | H21 |
| F1 | G2,B13 |
| F2 | G2,B9 |
| FADER | D2,D4 |
| GND D | J21 |
| HP_SENSE | D2,D4 |
| HSD | I21 |
| I1CDATA | G21 |
| I2C CLK | F2,F4,G21 |
| I2C DATA | F2,F4 |
| KEY0 | B21,F21 |
| KEY1 | B21,E21 |
| KEY2 | A21,E21 |
| LINE_L | I1,I4 |
| LINE_R | I1,I4 |
| MUTE | E2,E4 |
| NC | M21 |
| NTC | D2,D4 |
| OE LATCH | J21 |
| P05' | A21,E21 |
| P06' | A21,E21 |
| P07' | B21,F21 |
| P08' | C21,F21 |
| PB_Info | H21 |
| PORE | K21 |
| PW_DN | E2,E4 |
| RAB | J21 |
| REC_Info | I21 |
| RESET | K21 |
| SA | C2,C4 |
| SH_CLK | L21 |
| SILD | J21 |
| STDYBY | D2,D4 |
| STR_OUTP | L21 |
| TRAY+ | L21 |
| TRAY- | L21 |
| TRAY_SW | L2 |

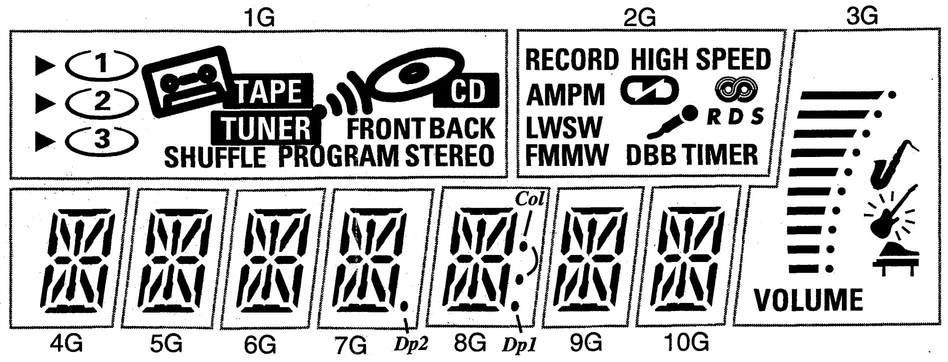
| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2403 A 5 | 2427 D 6 | 2445 C 5 | 2471 D 2 | 3402 B 2 | 3419 B 3 | 3440 B 4 | 3459 B 4 | 3477 B 4 | 3495 C 4 | 3513 C 3 | 3534 C 3 | 3554 B 1 | 3572 A 6 | 3605 D 3 | 4414 B 7 | 4430 C 1 | 4446 B 1 | 7401 B 4 |
| 2406 C 4 | 2428 D 6 | 2446 D 5 | 2473 D 2 | 3403 B 2 | 3420 B 3 | 3441 B 4 | 3460 B 4 | 3478 B 5 | 3496 C 4 | 3514 B 3 | 3536 C 4 | 3555 C 1 | 3573 A 6 | 3606 D 3 | 4415 B 7 | 4431 C 3 | 4447 B 7 | 7404 C 5 |
| 2407 C 4 | 2429 D 6 | 2452 B 1 | 2488 C 4 | 3404 B 2 | 3421 B 3 | 3442 B 4 | 3461 B 5 | 3479 B 4 | 3497 C 4 | 3515 B 2 | 3537 C 4 | 3556 C 1 | 3575 C 7 | 3611 B 4 | 4416 D 4 | 4432 B 6 | 4449 C 7 | 7405 B 2 |
| 2408 C 4 | 2430 B 5 | 2453 C 1 | 2499 C 5 | 3406 C 3 | 3422 B 3 | 3443 B 4 | 3462 C 3 | 3480 B 4 | 3498 C 4 | 3516 C 3 | 3538 C 4 | 3557 B 1 | 3581 C 6 | 4400 D 2 | 4417 B 6 | 4433 C 4 | 4451 C 2 | 7406 B 2 |
| 2409 C 4 | 2431 D 5 | 2454 B 1 | 2501 C 2 | 3407 B 3 | 3423 B 3 | 3446 B 4 | 3463 C 2 | 3481 B 4 | 3499 C 4 | 3517 C 3 | 3539 D 3 | 3558 C 1 | 3582 C 7 | 4401 A 3 | 4418 B 7 | 4434 D 4 | 4452 C 1 | 7407 B 3 |
| 2411 B 3 | 2432 D 5 | 2455 B 1 | 2502 C 2 | 3408 B 3 | 3424 A 3 | 3447 B 4 | 3465 B 5 | 3482 B 4 | 3500 C 4 | 3518 D 4 | 3540 C 5 | 3561 B 7 | 3583 C 7 | 4402 B 3 | 4419 C 6 | 4435 C 5 | 4453 C 2 | 7414 C 6 |
| 2412 B 2 | 2433 D 5 | 2456 C 1 | 2503 B 1 | 3409 B 3 | 3425 B 3 | 3448 B 4 | 3466 B 5 | 3483 B 4 | 3501 C 4 | 3519 C 2 | 3541 C 5 | 3562 B 7 | 3584 C 7 | 4403 A 3 | 4420 C 7 | 4436 C 3 | 4481 D 2 | 7415 B 1 |
| 2413 C 5 | 2434 D 5 | 2458 B 1 | 2504 B 1 | 3410 B 3 | 3426 B 4 | 3449 A 4 | 3467 B 5 | 3484 B 4 | 3503 C 4 | 3520 B 2 | 3542 C 5 | 3563 B 7 | 3586 C 5 | 4404 B 3 | 4421 C 3 | 4437 C 5 | 4482 D 2 | 7416 D 4 |
| 2414 B 2 | 2435 D 5 | 2459 B 7 | 2505 A 1 | 3411 B 3 | 3427 B 4 | 3450 A 4 | 3468 B 5 | 3485 C 4 | 3505 C 4 | 3521 C 3 | 3543 C 5 | 3564 B 7 | 3593 C 3 | 4406 D 2 | 4422 C 7 | 4438 C 2 | 4483 B 5 | 7420 C 5 |
| 2415 C 4 | 2436 D 5 | 2460 B 7 | 2506 B 1 | 3412 B 3 | 3428 B 4 | 3451 A 3 | 3469 B 3 | 3486 C 4 | 3506 C 3 | 3523 B 2 | 3545 C 5 | 3565 B 7 | 3594 D 4 | 4407 C 6 | 4423 B 7 | 4439 C 3 | 4484 D 2 | 7429 C 5 |
| 2416 B 6 | 2437 D 5 | 2461 B 7 | 2507 A 1 | 3413 B 3 | 3429 B 4 | 3452 B 3 | 3470 B 4 | 3487 B 5 | 3507 C 2 | 3525 C 4 | 3547 C 5 | 3566 B 7 | 3595 C 4 | 4408 C 6 | 4424 B 7 | 4440 C 3 | 4491 C 6 | 7430 D 3 |
| 2417 B 7 | 2438 B 7 | 2462 B 7 | 2508 B 6 | 3414 B 3 | 3430 B 4 | 3453 B 3 | 3471 B 5 | 3489 B 6 | 3508 C 2 | 3528 B 6 | 3548 C 5 | 3567 B 7 | 3596 D 3 | 4409 B 7 | 4425 C 2 | 4441 C 3 | 4500 C 3 | ---- |
| 2418 B 2 | 2439 B 7 | 2463 D 1 | 2509 B 6 | 3415 B 3 | 3431 B 4 | 3454 B 3 | 3472 B 5 | 3490 C 4 | 3509 C 3 | 3529 B 6 | 3549 C 5 | 3568 B 7 | 3601 D 2 | 4410 B 7 | 4426 D 4 | 4442 B 3 | 4501 C 3 | |
| 2419 B 2 | 2442 C 5 | 2464 D 1 | 2510 B 6 | 3416 B 3 | 3437 B 5 | 3455 B 3 | 3473 B 4 | 3491 C 5 | 3510 C 3 | 3531 C 3 | 3551 B 1 | 3569 B 7 | 3602 D 2 | 4411 B 7 | 4427 D 6 | 4443 B 2 | 4503 A 2 | |
| 2420 C 5 | 2443 C 5 | 2467 D 3 | 2511 B 5 | 3417 B 3 | 3438 B 4 | 3456 B 3 | 3474 B 4 | 3493 C 4 | 3511 B 5 | 3532 C 3 | 3552 C 1 | 3570 B 7 | 3603 D 2 | 4412 B 7 | 4428 D 5 | 4444 C 2 | 4504 A 4 | |
| 2421 C 3 | 2444 C 5 | 2468 D 3 | 2512 D 4 | 3418 B 3 | 3439 B 4 | 3457 B 3 | 3475 B 5 | 3494 C 4 | 3512 C 3 | 3533 C 3 | 3553 B 1 | 3571 A 6 | 3604 D 2 | 4413 B 7 | 4429 B 2 | 4445 B 7 | 4550 B 6 | |

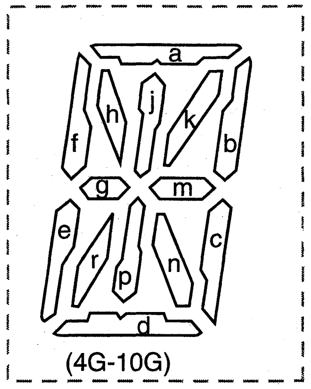
## COMPONENT LAYOUT COPPERSIDE VIEW

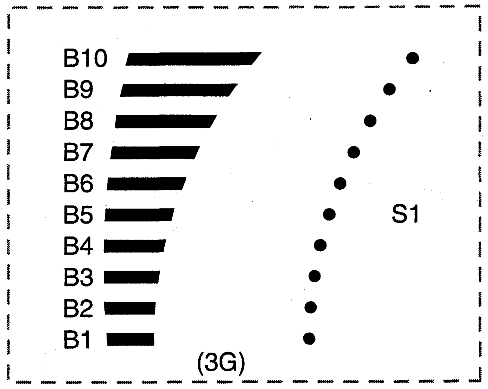


This assembly drawing shows a summary of all possible versions.
For components used in as specific version see schematic diagram and respective partslist.

## LCD PIN CONNECTION


1G
2G
3G
▶ 1
▶ 2
▶ 3
TAPE
TUNER
CD
FRONT BACK
SHUFFLE PROGRAM STEREO
RECORD HIGH SPEED
AMPM
RDS
LWSW
FMMW DBB TIMER
Col
VOLUME
4G
5G
6G
7G
Dp2
8G
Dp1
9G
10G


a
h
j
k
f
b
g
m
e
r
p
n
c
d
(4G-10G)


B10
B9
B8
B7
B6
B5
B4
B3
B2
B1
S1
(3G)

| | 1G | 2G | 3G | 4G | 5G | 6G | 7G | 8G | 9G | 10G |
|---|---|---|---|---|---|---|---|---|---|---|
| P1 | ▶ (1) | RECORD | B1 | a | a | a | a | a | a | a |
| P2 | ▶ (2) | HIGH SPEED | B2 | h | h | h | h | h | h | h |
| P3 | ▶ (3) | AM | B3 | j , p | j , p | j , p | j , p | j , p | j , p | j , p |
| P4 | 1 2 3 | PM | B4 | k | k | k | k | k | k | k |
| P5 | ⬭ (1) | RDS | B5 | b | b | b | b | b | b | b |
| P6 | ⬭ (2) | ⇄ | B6 | f | f | f | f | f | f | f |
| P7 | ⬭ (3) | ( | B7 | m | m | m | m | m | m | m |
| P8 | TAPE | ) | B8 | g | g | g | g | g | g | g |
| P9 | TUNER | 🎤 | B9 | c | c | c | c | c | c | c |
| P10 | CD | LW | B10 | e | e | e | e | e | e | e |
| P11 | FRONT | SW | VOLUME | r | r | r | r | r | r | r |
| P12 | BACK | FM | 🎷 | n | n | n | n | n | n | n |
| P13 | SHUFFLE | MW | 🎸 | d | d | d | d | d | d | d |
| P14 | PROGRAM | DBB | 🎸 | - | - | - | *Dp2* | *Dp1* | - | - |
| P15 | STEREO | TIMER | 🎹 | - | - | - | - | *col* | - | - |

## MICROPROCESSOR PIN DESCRIPTION

| | | | | | |
|---|---|---|---|---|---|
| T001 | Cd Sw Info | T031 | P13 | T061 | Amp_On |
| T002 | Cd Str Output | T032 | P12 | T062 | Stdby |
| T003 | Cd Sh Clk | T033 | P11 | T063 | - |
| T004 | Cd Pore | T034 | P10 | T064 | Hp Sen |
| T005 | Cd Data | T035 | P035 | T065 | - |
| T006 | Cd Sild | T036 | P04 | T066 | *NTC* |
| T007 | GND D | T037 | P03 | T067 | - |
| T008 | Cd Sicl | T038 | P02 | T068 | E2prom Sup |
| T009 | Cd OE Latch | T039 | - | T069 | Vdd |
| T010 | HSD | T040 | *NTC* | T070 | +F |
| T011 | Rec_Info | T041 | Tu Stereo | T071 | +D |
| T012 | Pb_Info | T042 | Tu Clk | T072 | - |
| T013 | Cdcled | T043 | Tu Data | T073 | - |
| T014 | +F | T044 | Tu Enable | T074 | - |
| T015 | P08' | T045 | Tu RDS | T075 | - |
| T016 | P07' | T046 | Tu GND | T076 | Mute |
| T017 | KEY 0 | T047 | - | T077 | I2C Data |
| T018 | KEY 1 | T048 | - | T078 | GND |
| T019 | P06' | T049 | - | T079 | I2C Clk |
| T020 | KEY 2 | T050 | - | | |
| T021 | P05' | T051 | FTD (F2) | | |
| T022 | Cdcled | T052 | FTD (F1) | | |
| T023 | +F | T053 | -32V | | |
| T024 | P08' | T054 | +5V6 | | |
| T025 | P07' | T055 | +D | | |
| T026 | KEY 0 | T056 | I2C Clk | | |
| T027 | KEY 1 | T057 | I2C Data | | |
| T028 | P06' | T058 | Mute | | |
| T029 | KEY 2 | T059 | Cd_Stdby | | |
| T030 | P05' | T060 | Pw_Dn | | |

# KARAOKE BOARD

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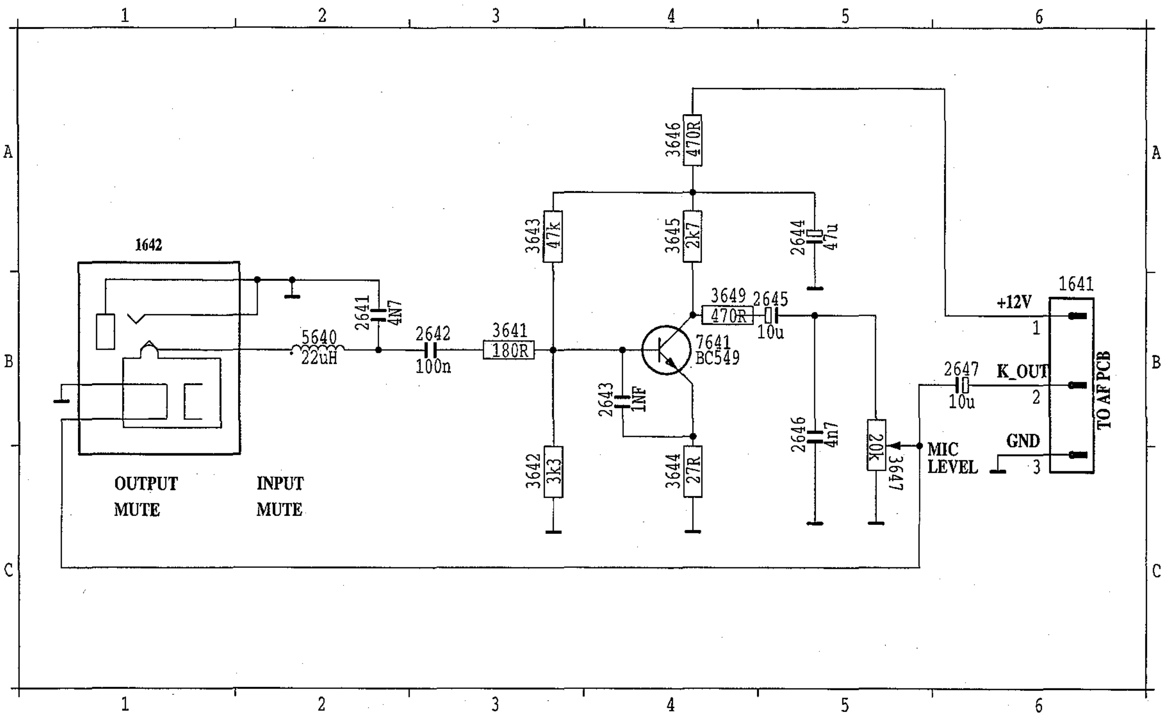
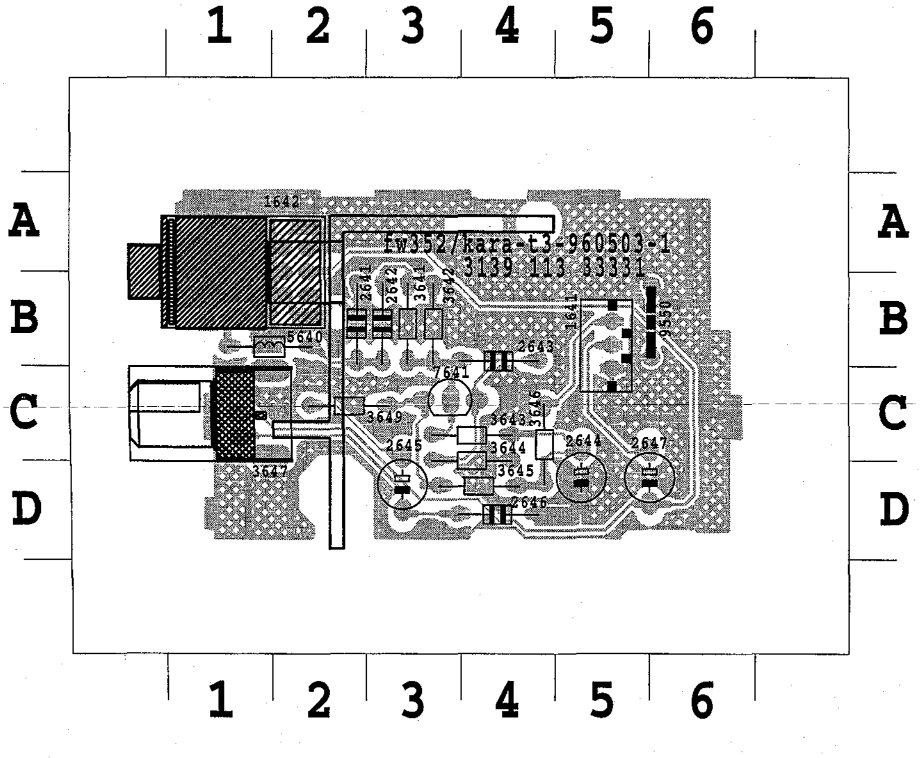
# KARAOKE CIRCUIT & LAYOUT

| | | | | | | |
|---|---|---|---|---|---|---|
| 1641 B 6 | 2642 B 3 | 2645 B 5 | 3641 B 3 | 3644 C 4 | 3647 C 5 | 7641 B 4 |
| 1642 A 1 | 2643 B 4 | 2646 B 5 | 3642 C 3 | 3645 A 4 | 3649 B 4 | |
| 2641 B 2 | 2644 A 5 | 2647 B 6 | 3643 A 3 | 3646 A 4 | 5640 B 2 | |


1
2
3
4
5
6
A
B
C
1642
2641
4N7
5640
22uH
2642
100n
3641
180R
3643
47k
3646
470R
3645
2k7
2644
47u
3649
470R
2645
10u
7641
BC549
2643
1NF
3642
3k3
3644
27R
2646
4n7
20K
3647
MIC
LEVEL
2647
10u
+12V
K_OUT
GND
1
2
3
1641
TO AF PCB
OUTPUT
MUTE
INPUT
MUTE

| | | | | |
|---|---|---|---|---|
| 1641 B 5 | 2643 B 4 | 2647 D 6 | 3644 D 4 | 3649 C 2 |
| 1642 B 1 | 2644 D 5 | 3641 B 3 | 3645 D 4 | 5640 B 1 |
| 2641 B 2 | 2645 D 3 | 3642 B 3 | 3646 C 4 | 7641 C 3 |
| 2642 B 3 | 2646 D 4 | 3643 C 4 | 3647 C 1 | 9550 B 6 |


1
2
3
4
5
6
A
B
C
D
1642
fw352/kara-t3-960503-1
3139 113 33331
2641
2642
3641
3642
5640
2643
7641
1641
9550
3649
3646
3643
2645
3644
3645
2644
2647
2646
3647

## *KARAOKE BOARD PARTSLIST*

### MISCELLANEOUS

| | | |
|---|---|---|
| 2 | 4822 402 10222 | Bracket |
| 1642 | 4822 267 40898 | Connector |

### CAPACITORS

| | | |
|---|---|---|
| 2641 | 4822 126 11714 | 4.7nF 20% 50V |
| 2642 | 4822 126 12882 | 100nF+80-20% 50V |
| 2643 | 4822 122 33197 | 1nF 10% 50V |
| 2644 | 4822 124 41751 | 47µF 20% 50V |
| 2645 | 4822 124 41579 | 10µF 20% 50V |
| 2646 | 4822 126 11714 | 4.7nF 20% |
| 2647 | 4822 124 41579 | 10µF 20% 50V |

### RESISTORS

| | | |
|---|---|---|
| 3641 | 4822 116 52213 | 180Ω 5% 0.5W |
| 3642 | 4822 116 52269 | 3k3 5% 0.5W |
| 3643 | 4822 116 52284 | 47k 5% 0.5W |
| 3644 | 4822 116 52188 | 27Ω 5% 0.5W |
| 3645 | 4822 116 52263 | 2k7 5% 0.5W |
| 3646 | 4822 116 52224 | 470Ω 5% 0.5W |
| 3647 | 4822 101 21204 | 20k Variable |
| 3649 | 4822 116 52224 | 470Ω 5% 0.5W |

### TRANSISTOR

| | | |
|---|---|---|
| 7641 | 4822 130 41096 | BC550C |

### COIL

| | | |
|---|---|---|
| 5640 | 4822 157 52983 | Coil 2.2µH 10% |

# MTF TAPE MODULE

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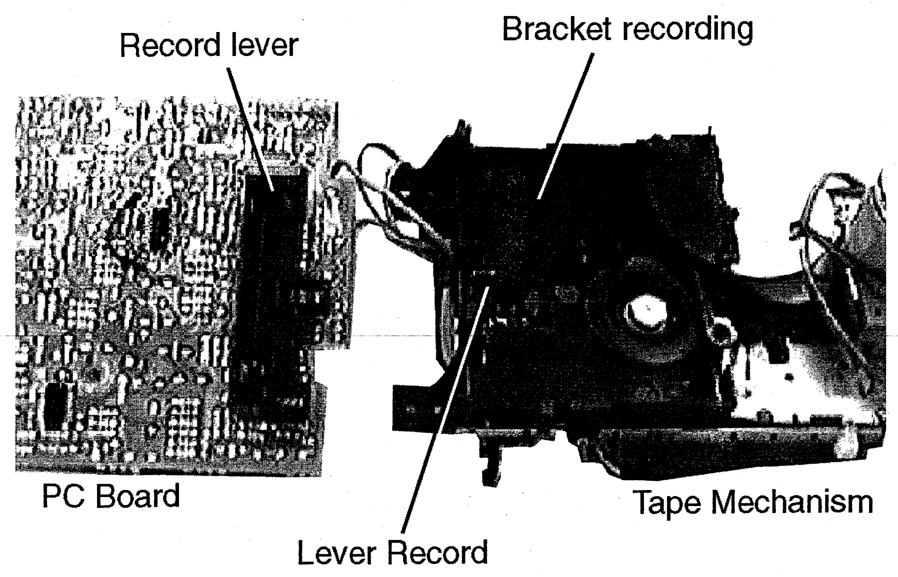
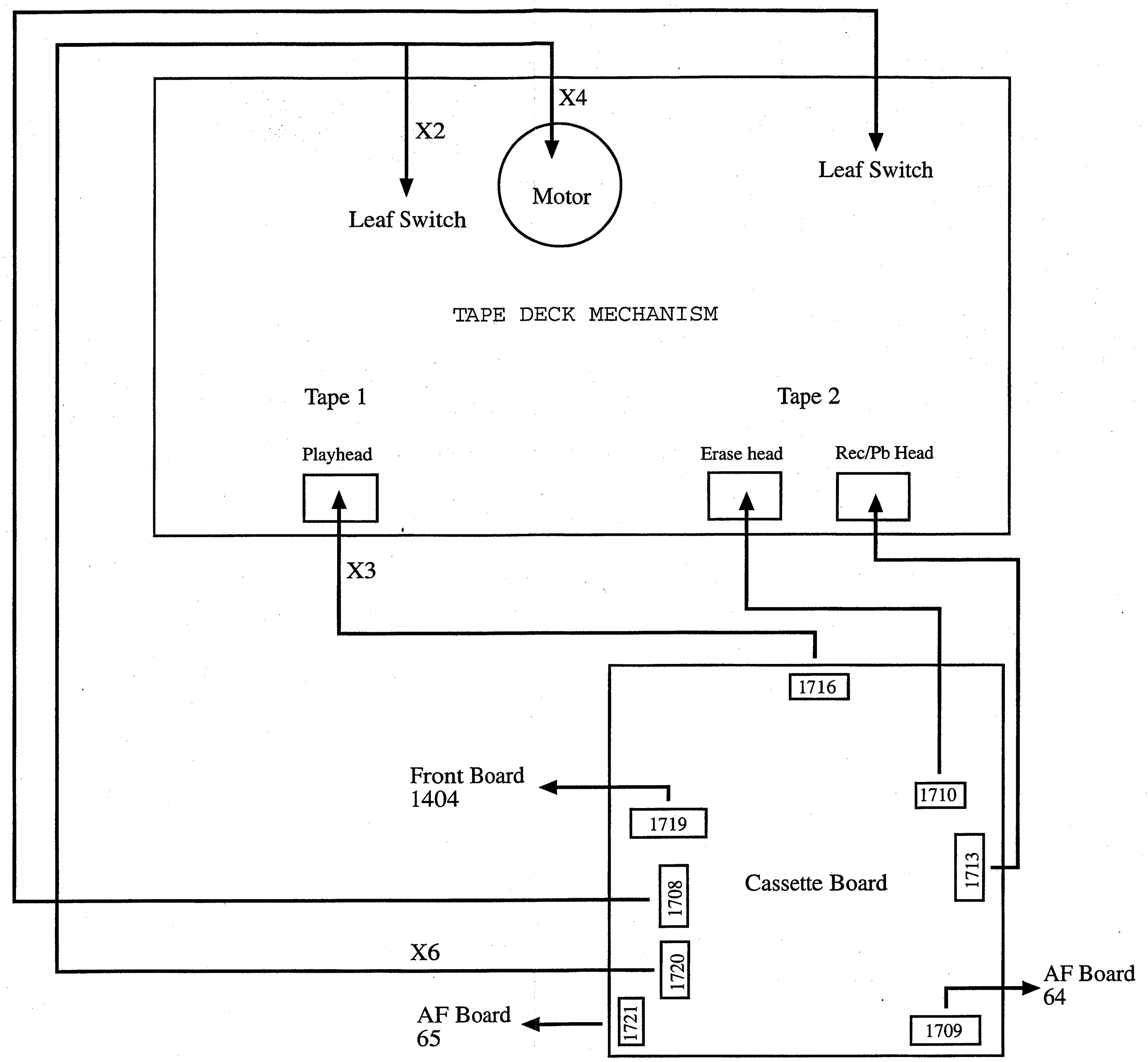


Record lever
Bracket recording
PC Board
Tape Mechanism
Lever Record

### Tape Deck Wiring Diagram



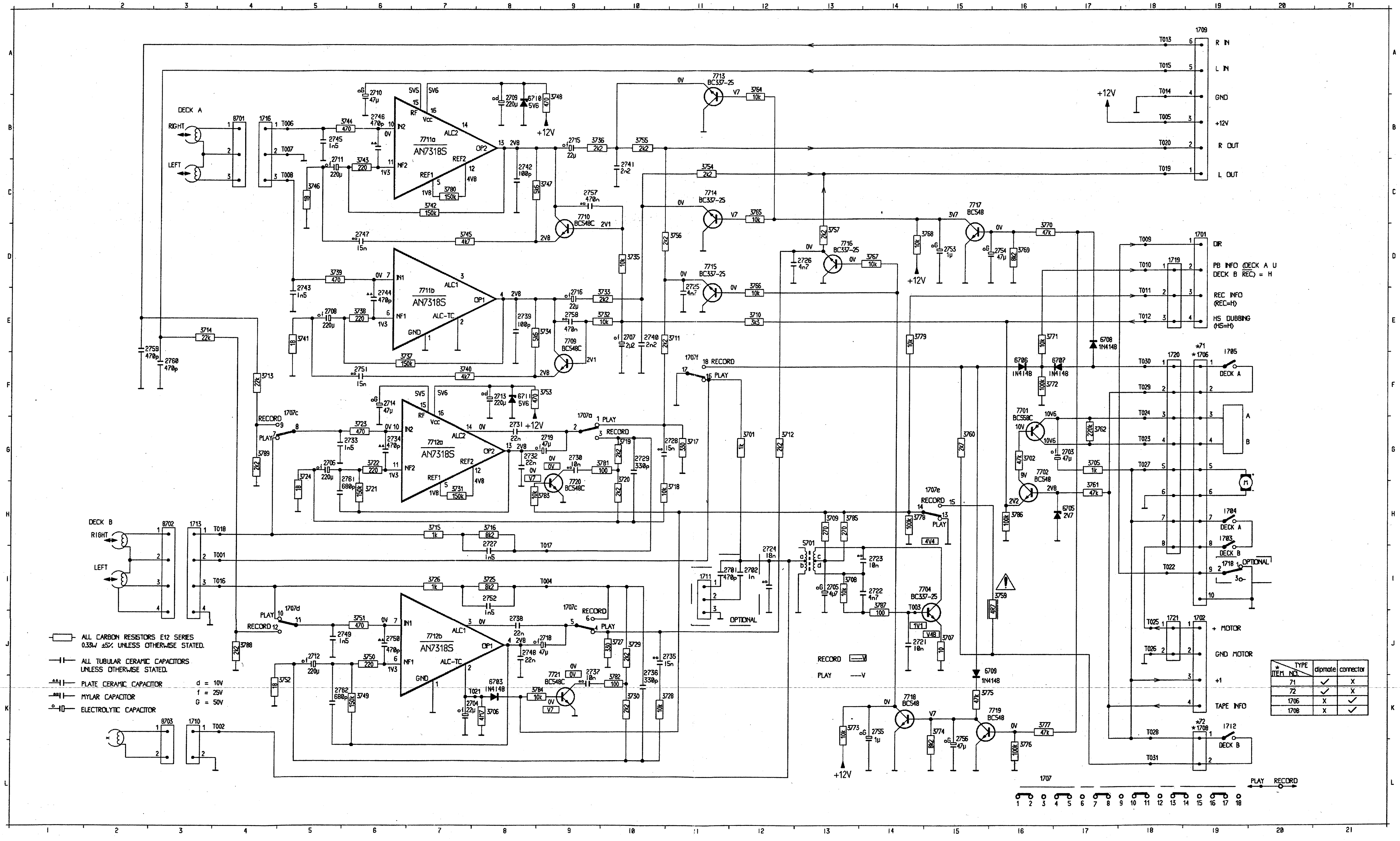
X2
X4
Motor
Leaf Switch
Leaf Switch
TAPE DECK MECHANISM
Tape 1
Tape 2
Playhead
Erase head
Rec/Pb Head
X3
1716
Front Board
1404
1719
1710
1708
Cassette Board
1713
X6
1720
AF Board
64
AF Board
65
1721
1709

### TAPE MECHANISM ADJUSTMENT

| ADJUSTMENT | CASSETTE | DECK1 | DECK2 | MEASURE ON | READ ON | ADJUST WITH | ADJUST TO |
|---|---|---|---|---|---|---|---|
| Azimuth | 10kHz | Play | - | T019/ T020 | mV-meter | Left hand screw of Play or R/P head | Maximum |
| | SBC420* | - | Play | | | | L = R |
| Motor speed | 3150Hz | Play | - | T019/ T020 | Wow and Futter meter | Preset in motor | **a |
| | SBC420* | - | Play | | | | |

* SBC 420: 4822 397 30071
**a: The maximum permissible speed deviation is 2%.
Moreover, the Wow & Flutter value can be read.
This value should not exceed 0.4%.

| | |
|---|---|
| 1701 | D19 |
| 1702 | J19 |
| 1703 | H19 |
| 1704 | H19 |
| 1705 | F19 |
| 1706 | F19 |
| 1707a | G 9 |
| 1707c | F 5 |
| 1707c | I 9 |
| 1707d | I 5 |
| 1707e | H15 |
| 1707f | F11 |
| 1708 | K19 |
| 1709 | A19 |
| 1710 | K 3 |
| 1711 | I11 |
| 1712 | K19 |
| 1713 | H 3 |
| 1716 | B 4 |
| 1718 | I19 |
| 1719 | D18 |
| 1720 | F18 |
| 1721 | J18 |
| 2701 | I12 |
| 2702 | I12 |
| 2703 | G17 |
| 2704 | K 8 |
| 2705 | I13 |
| 2706 | G 5 |
| 2707 | E10 |
| 2708 | E 5 |
| 2709 | B 8 |
| 2710 | A 6 |
| 2711 | C 5 |
| 2712 | J 5 |
| 2713 | F 8 |
| 2714 | F 6 |
| 2715 | B 9 |
| 2716 | E 9 |
| 2718 | J 9 |
| 2719 | G 9 |
| 2721 | J14 |
| 2722 | I14 |
| 2723 | I14 |
| 2724 | I12 |
| 2725 | E11 |
| 2726 | D13 |
| 2727 | H 8 |
| 2728 | G11 |
| 2729 | G10 |
| 2730 | G 9 |
| 2731 | G 8 |
| 2732 | G 8 |
| 2733 | G 6 |
| 2734 | G 6 |
| 2735 | J11 |
| 2736 | J10 |
| 2737 | J 9 |
| 2738 | J 8 |
| 2739 | E 8 |
| 2740 | E10 |
| 2741 | C10 |
| 2742 | C 8 |
| 2743 | E 5 |
| 2744 | E 6 |
| 2745 | B 5 |
| 2746 | B 6 |
| 2747 | D 6 |
| 2748 | J 8 |
| 2749 | J 6 |
| 2750 | J 6 |
| 2751 | F 6 |
| 2752 | I 8 |
| 2753 | D15 |
| 2754 | D16 |
| 2755 | K14 |
| 2756 | L15 |
| 2757 | C 9 |
| 2758 | E 9 |
| 2759 | E 3 |
| 2760 | F 3 |
| 2761 | G 6 |
| 2762 | K 5 |
| 3701 | G12 |
| 3702 | G16 |
| 3705 | G17 |
| 3706 | K 8 |
| 3707 | J15 |
| 3708 | I13 |
| 3709 | H13 |
| 3710 | E12 |
| 3711 | E11 |
| 3712 | G12 |
| 3713 | F 4 |
| 3714 | E 3 |
| 3715 | H 7 |
| 3716 | H 8 |
| 3717 | G11 |
| 3718 | H11 |
| 3719 | G10 |
| 3720 | G10 |
| 3721 | H 6 |
| 3722 | G 6 |
| 3723 | G 6 |
| 3724 | G 5 |
| 3725 | I 8 |
| 3726 | I 7 |
| 3727 | J10 |
| 3728 | K11 |
| 3729 | J10 |
| 3730 | K10 |
| 3731 | H 7 |
| 3732 | E10 |
| 3733 | E10 |
| 3734 | E 9 |
| 3735 | D10 |
| 3736 | B 9 |
| 3737 | F 6 |
| 3738 | E 6 |
| 3739 | D 5 |
| 3740 | F 7 |
| 3741 | E 5 |
| 3742 | C 7 |
| 3743 | C 6 |
| 3744 | B 6 |
| 3745 | D 7 |
| 3746 | C 5 |
| 3747 | C 9 |
| 3748 | B 9 |
| 3749 | K 6 |
| 3750 | J 6 |
| 3751 | J 6 |
| 3752 | K 5 |
| 3753 | F 9 |
| 3754 | C11 |
| 3755 | B10 |
| 3756 | D11 |
| 3757 | D13 |
| 3759 | I15 |
| 3760 | I15 |
| 3761 | G16 |
| 3762 | G17 |
| 3764 | A12 |
| 3765 | C12 |
| 3766 | D12 |
| 3767 | D14 |
| 3768 | D15 |
| 3769 | D16 |
| 3770 | D16 |
| 3771 | E16 |
| 3772 | F16 |
| 3773 | K13 |
| 3774 | K15 |
| 3775 | K15 |
| 3776 | L16 |
| 3777 | K16 |
| 3778 | H14 |
| 3779 | E14 |
| 3780 | C 7 |
| 3781 | G10 |
| 3782 | K10 |
| 3783 | H 9 |
| 3784 | K 9 |
| 3785 | H13 |
| 3786 | H16 |
| 3787 | I14 |
| 3788 | J 4 |
| 3789 | G 4 |
| 5701 | H13 |
| 6703 | K 8 |
| 6705 | H16 |
| 6706 | F16 |
| 6707 | F17 |
| 6708 | E17 |
| 6709 | J15 |
| 6710 | B 8 |
| 6711 | F 8 |
| 7701 | F16 |
| 7702 | G16 |
| 7704 | I14 |
| 7709 | E 9 |
| 7710 | C 9 |
| 7711a | B 7 |
| 7711b | E 7 |
| 7712a | G 7 |
| 7712b | J 7 |
| 7713 | A11 |
| 7714 | C11 |
| 7715 | D11 |
| 7716 | D13 |
| 7717 | C15 |
| 7718 | K14 |
| 7719 | K15 |
| 7720 | H 9 |
| 7721 | J 9 |
| 8701 | B 4 |
| 8702 | H 3 |
| 8703 | K 3 |
| T001 | I 3 |
| T002 | K 3 |
| T003 | I14 |
| T004 | I 9 |
| T005 | B18 |
| T006 | B 4 |
| T007 | B 4 |
| T008 | C 4 |
| T009 | D18 |
| T010 | D18 |
| T011 | E18 |
| T012 | E18 |
| T013 | A18 |
| T014 | A18 |
| T015 | A18 |
| T016 | I 3 |
| T017 | I 9 |
| T018 | H 3 |
| T019 | C18 |
| T020 | B18 |
| T021 | K 7 |
| T022 | I18 |
| T023 | G18 |
| T024 | F18 |
| T025 | J18 |
| T026 | J18 |
| T027 | G18 |
| T028 | K18 |
| T029 | F18 |
| T030 | F18 |
| T031 | L18 |


DECK A
RIGHT
LEFT
DECK B
AN7318S
7711a
7711b
7712a
7712b
BC548C
BC337-25
BC548
BC558C
1N4148
R IN
L IN
GND
+12V
R OUT
L OUT
DIR
PB INFO (DECK A U
DECK B REC) = H
REC INFO
(REC=H)
HS DUBBING
(HS=H)
RECORD
PLAY
OPTIONAL
+ MOTOR
GND MOTOR
+1
TAPE INFO
1707
PLAY RECORD

ALL CARBON RESISTORS E12 SERIES
0.33W ±5% UNLESS OTHERWISE STATED.

ALL TUBULAR CERAMIC CAPACITORS
UNLESS OTHERWISE STATED.

PLATE CERAMIC CAPACITOR

MYLAR CAPACITOR

ELECTROLYTIC CAPACITOR

d = 10V
f = 25V
G = 50V

| * ITEM NO. / TYPE | dipmate | connector |
|---|---|---|
| 71 | ✓ | X |
| 72 | ✓ | X |
| 1706 | X | ✓ |
| 1708 | X | ✓ |

# CDC3 MODULE BOARD

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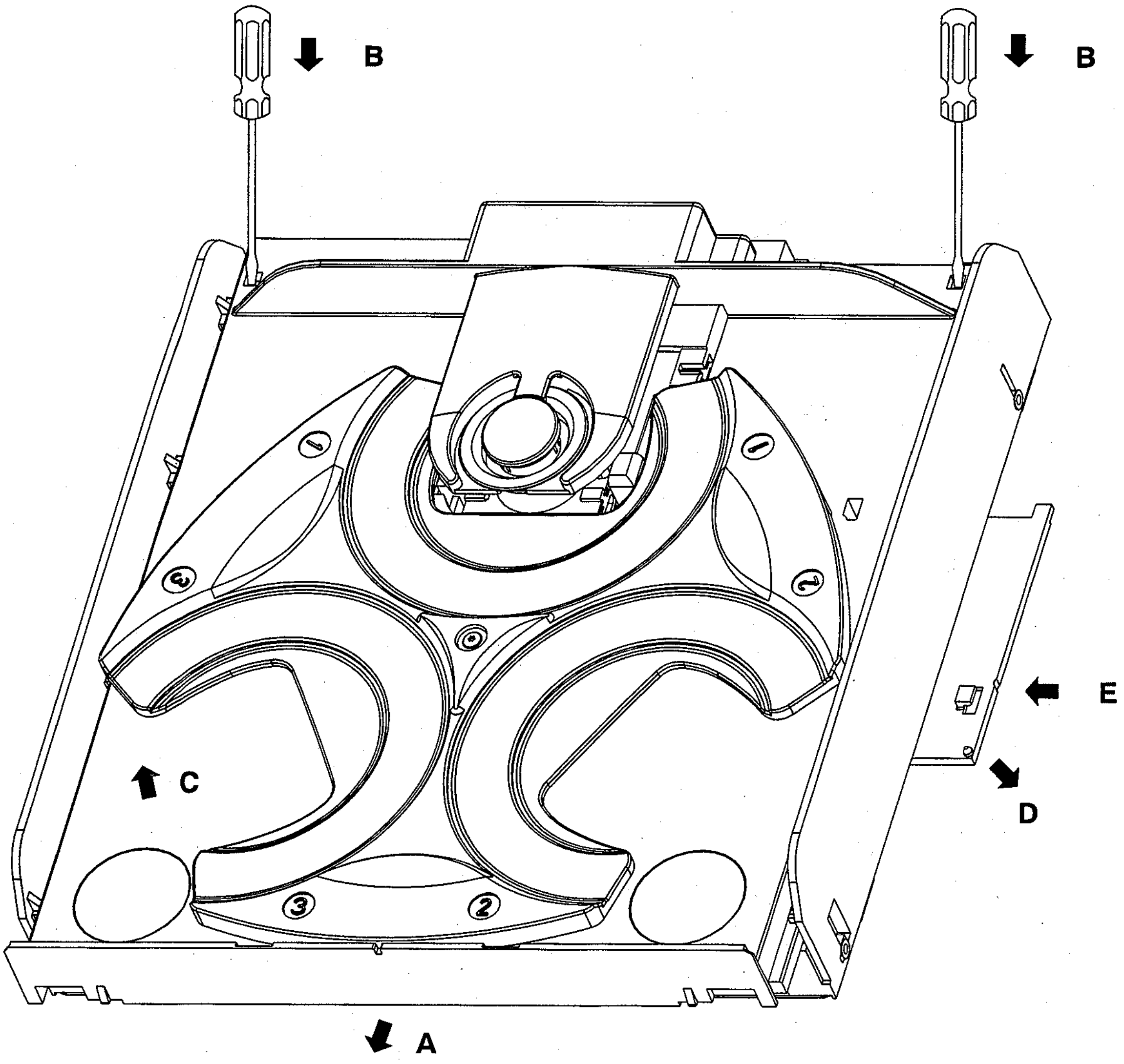
## DEMOUNTING HINTS



### DEMOUNTING OF DRAWER

⇒ **A** Pull drawer outwards
⇒ **B** Unlock drawer with srcrewdriver
⇒ **C** Lift drawer to demount from chassis

### DEMOUNTING OF FLEX PLATE

⇒ **D** Lift plate to unlock pin from bottom plate
⇒ **E** Move plate inwards to demount from bottom plate

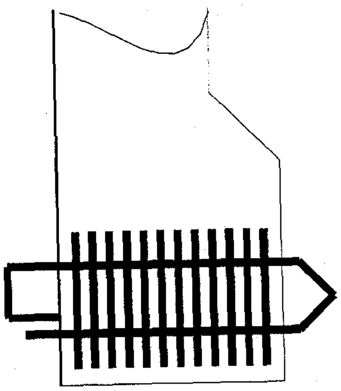
## SERVICING HINTS

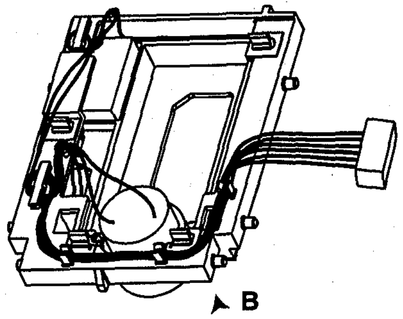
### REPLACEMENT OF CDM-12.1

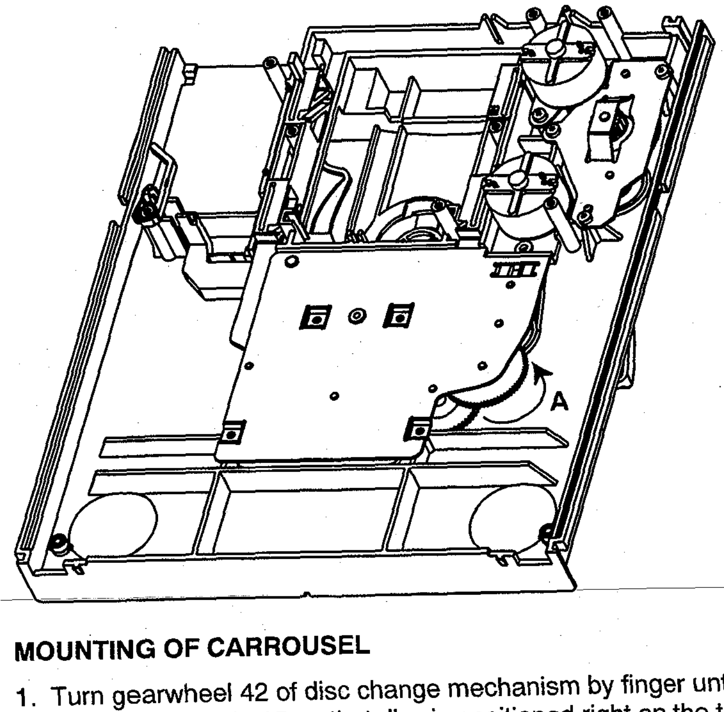
See also exploded view of changer mechanism.

1. Demount flex plate (140).
2. Demount printboard: remove 6 screws and desolder lips of tray motor and carrousel motor.
3. Disconnect flexfoil and JST connector of CDM from PCB. Put paperclip on flexfoil to protect CDM against laser damage.
4. Remove 2 screws 107 and 108 and demount CDM lockings 105 and 106.
5. Turn gearwheel 42 of disc-change-mechanism by finger to move CDM-support in upper position(position of carrousel between 2 discs during changing). **A**
6. Demount CDM-support 95. **B**
7. Replace CDM 100. The wire tree of JST connector has to be desoldered and resoldered on the new CDM.

CDM flex foil







### MOUNTING OF CARROUSEL

1. Turn gearwheel 42 of disc change mechanism by finger until CDM is in play position.
2. Mount carrousel 115 so that disc is positioned right on the turntable. Carrousel positionnumber doesn't matter.

## CD SERVO SERVICE HINTS

***CHARGED CAPACITORS ON THE SERVO BOARD MAY DAMAGE THE CDM-ELECTRONICS WHEN CONNECTION A NEW CDM MECHANISM. THAT'S WHY, BESIDES THE SAFETY MEASURES LIKE***
***- SWITSH OFF POWER SUPPLY***
***- ESD PROTECTION***
***ADDITIONAL ACTIONS MUST BE TAKEN BY THE REPAIR TECHNICIAN.***

The following steps have to be done when replacing the CDM mechanism:

1. Disconnect old CDM flexfoil from printed board
2. Connect paperclip to CDM flexfoil to short-circuit flexfoil (fig. 1)
3. Short-circuit printed board with **brass-sheet (4822 321 11197)** plugged into the flexfoil connector (fig. 2)
4. Remove old CDM mechanism
5. Position new CDM mechanism in its studs
6. Remove short-circuit from printed board connector
7. Remove short-circuit from flexfoil of new CDM
8. Connect new flexfoil to print connector (fig. 3)

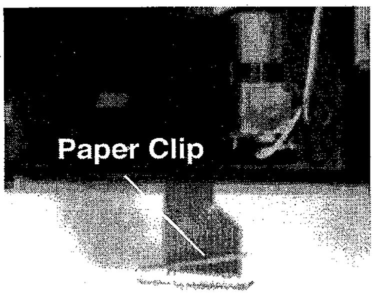


fig. 1

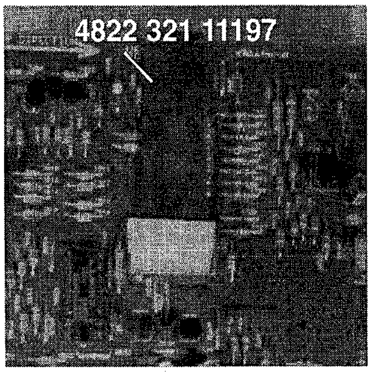


fig2

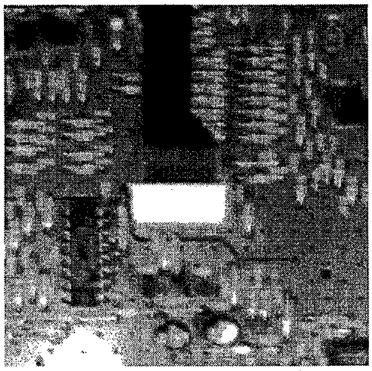
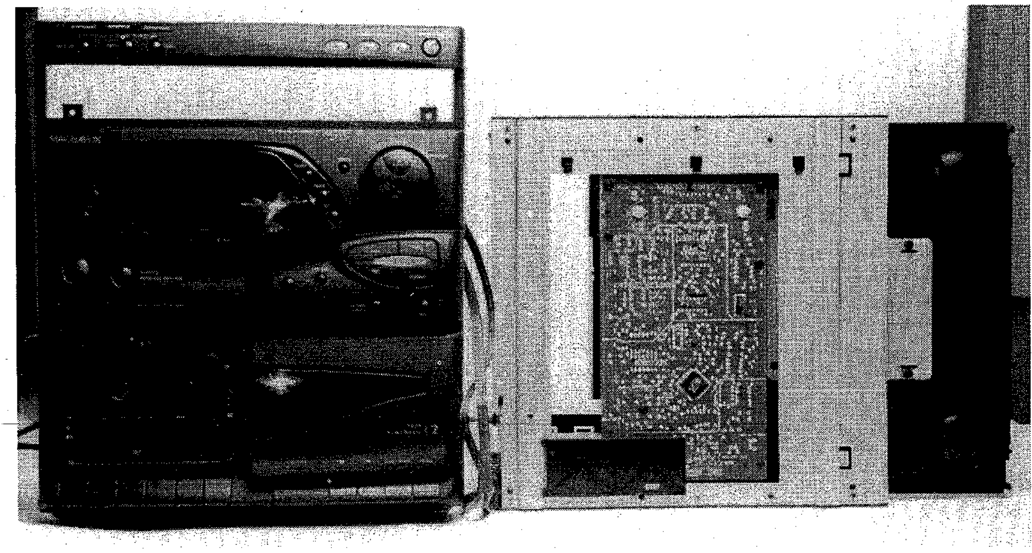
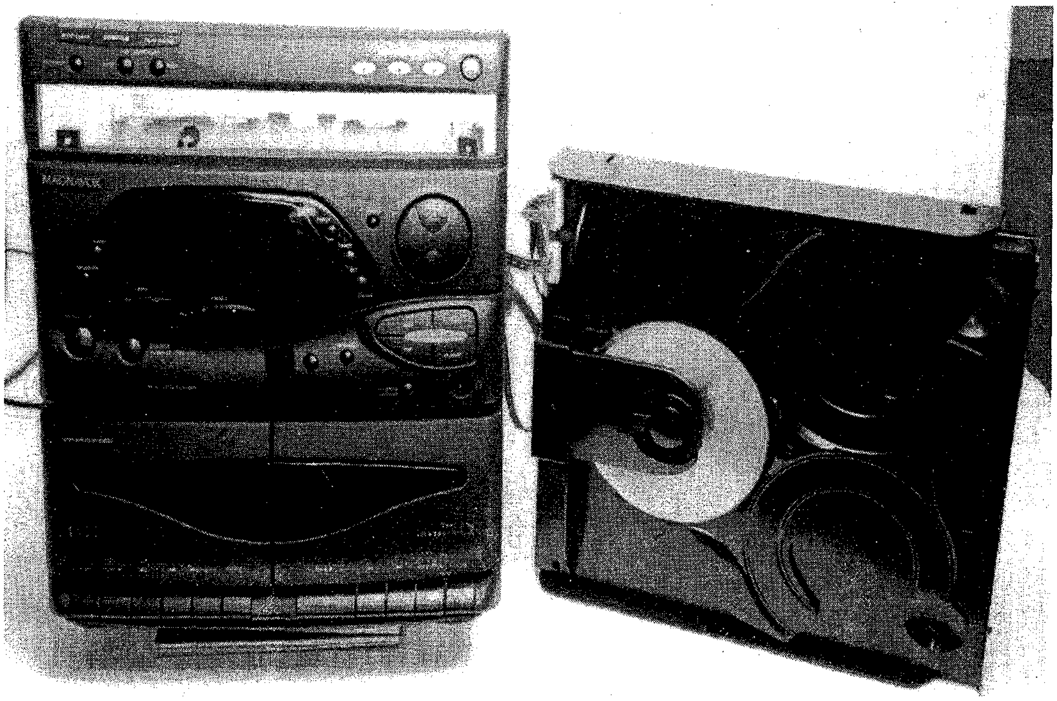


fig. 3

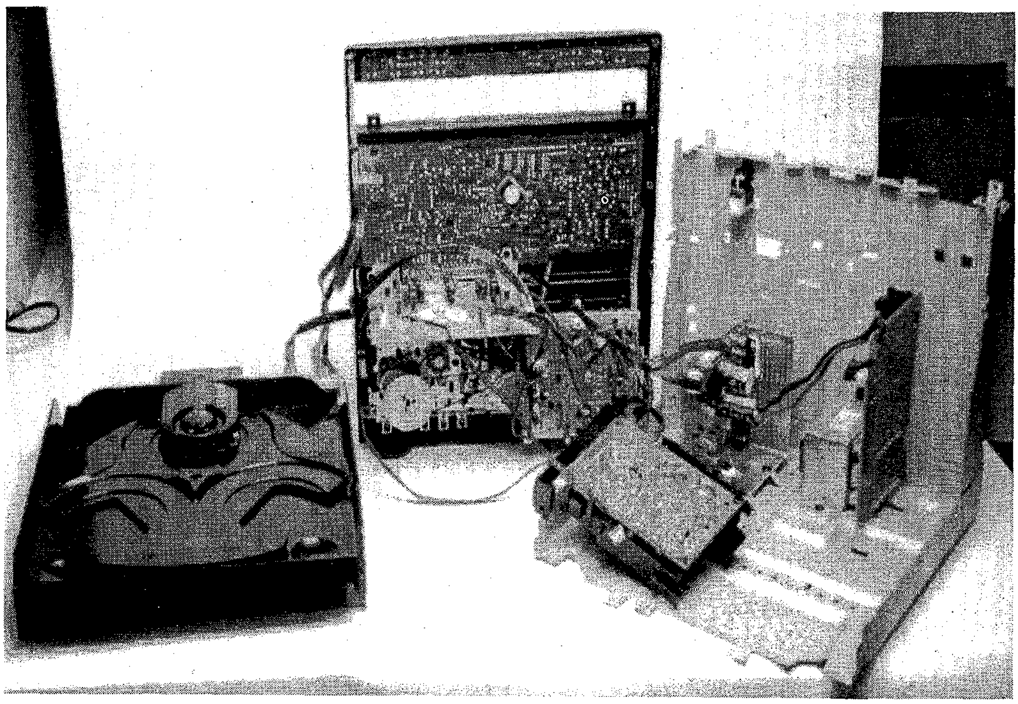
## Service Position for CDC module



1) Follow the dismantling sequence shown in page 3-3 before coming to service position A.



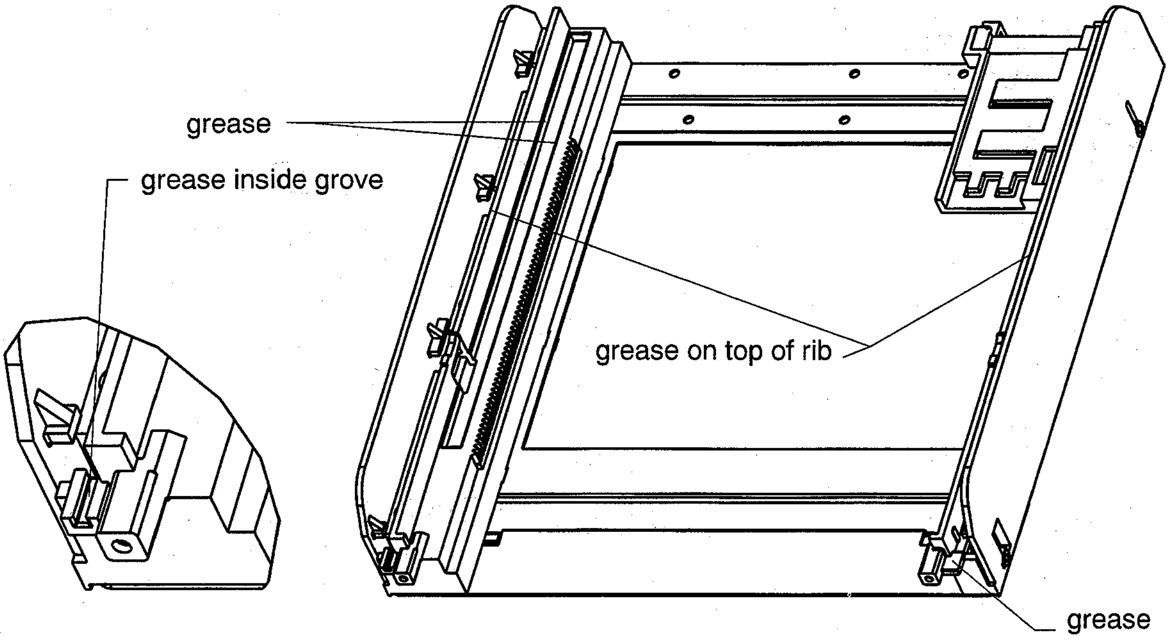
2) Service position B



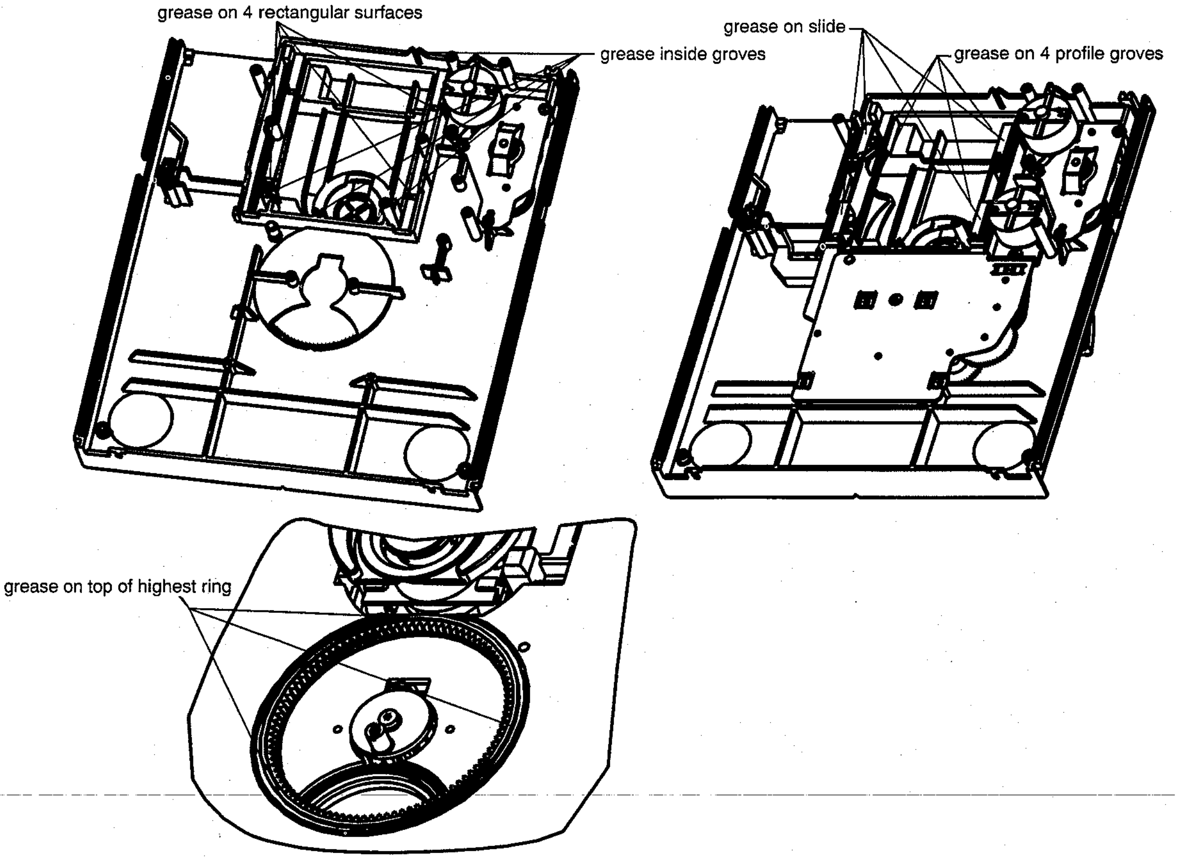
2) Service position C

# LUBRICATING INSTRUCTIONS

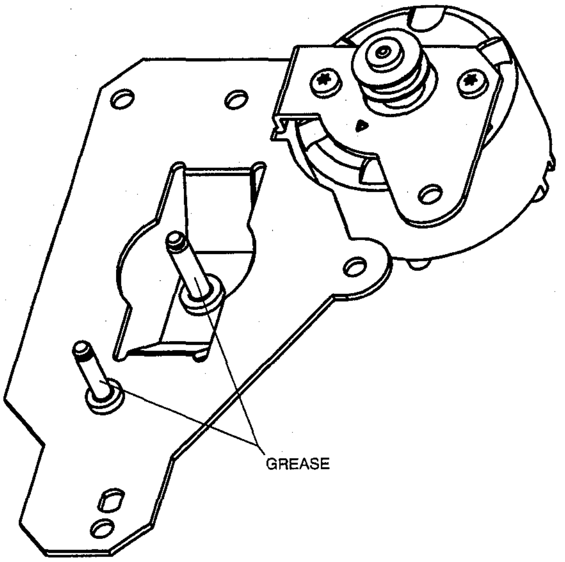
## CHASSIS


grease
grease inside grove
grease on top of rib
grease

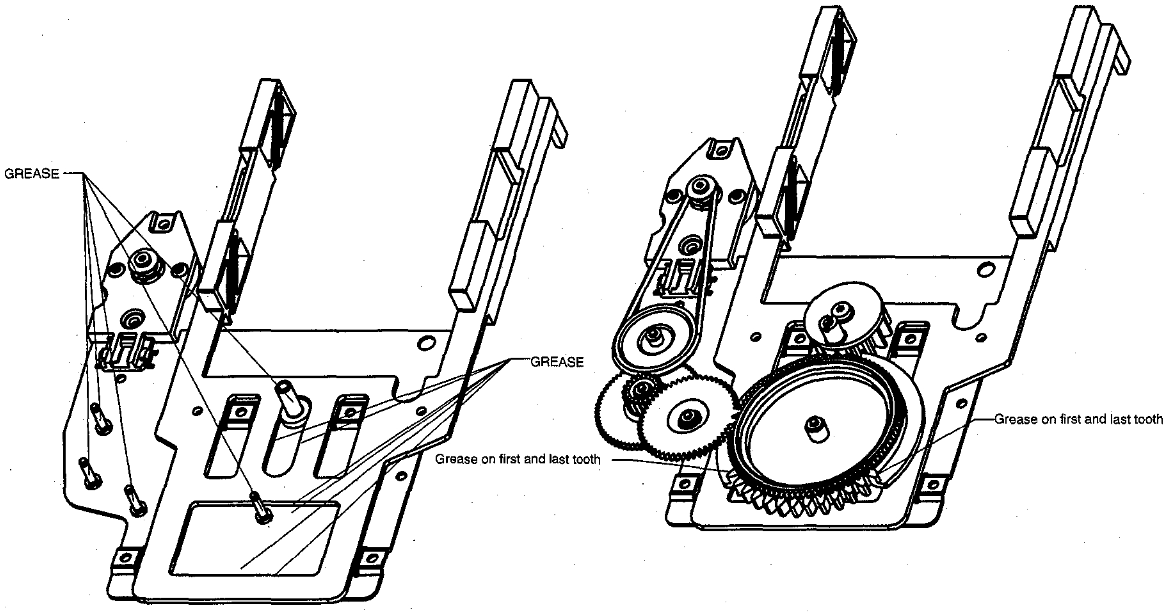
## DRAWER


grease on 4 rectangular surfaces
grease inside groves
grease on slide
grease on 4 profile groves
grease on top of highest ring

## DRAWER MECHANISM

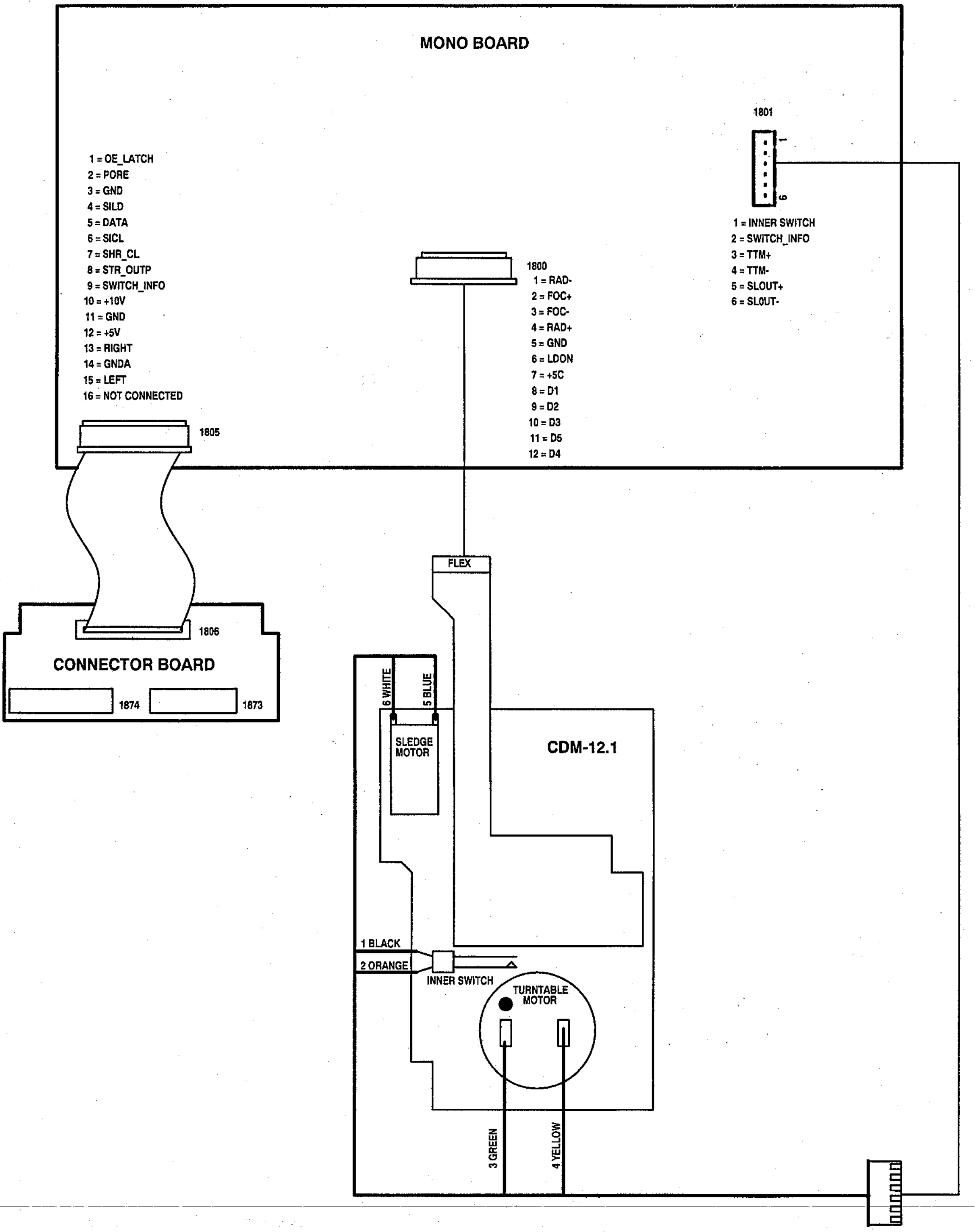


## DISC-CHANGE MECHANISM


GREASE
GREASE
Grease on first and last tooth
Grease on first and last tooth

Use only grease **Polylub GLY 801** service codenumber 4822 390 10136

## WIRING DIAGRAM


MONO BOARD
1 = OE_LATCH
2 = PORE
3 = GND
4 = SILD
5 = DATA
6 = SICL
7 = SHR_CL
8 = STR_OUTP
9 = SWITCH_INFO
10 = +10V
11 = GND
12 = +5V
13 = RIGHT
14 = GNDA
15 = LEFT
16 = NOT CONNECTED
1805
1800
1 = RAD-
2 = FOC+
3 = FOC-
4 = RAD+
5 = GND
6 = LDON
7 = +5C
8 = D1
9 = D2
10 = D3
11 = D5
12 = D4
1801
1
6
1 = INNER SWITCH
2 = SWITCH_INFO
3 = TTM+
4 = TTM-
5 = SLOUT+
6 = SLOUT-
FLEX
1806
CONNECTOR BOARD
1874
1873
6 WHITE
5 BLUE
SLEDGE MOTOR
CDM-12.1
1 BLACK
2 ORANGE
INNER SWITCH
TURNTABLE MOTOR
3 GREEN
4 YELLOW